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# In Memoriam.

As a frontispiece to our first volume of the new century we present to our subscribers a reproduction of an excellent portrait of the revered and beloved Queen Victoria. It represents Her late Majesty at the time of her visit to Bristol at the opening of the Queen Victoria Jubilee Convalescent Home, on November 15th, 1899. She is depicted as sitting in the carriage and attentively listening to the address which was then being read to her. The occasion is a memorable one in Bristol history as being that on which the first Lord Mayor of this city, Sir Herbert Ashman, received the honour of knighthood on the steps of the Council House. The city arms in the top corner, and (in the original etching) an outline sketch of the Corporation casket presented to the Queen, with the names of the Lord Mayor, High Sheriff, Aldermen and Councillors, give the portrait an interest locally, as also does the fact that the picture is the work of our well-known etcher, Charles Bird, whose various productions deservedly receive the highest commendation. Of the numerous representations of Her Majesty which have been published, we think that this one should take a very high place.



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# THE USES OF SANATORIA FOR THE TREATMENT OF TUBERCULOSIS.

BY

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A REMARKABLE wave of feeling in favour of open-air treatment has passed through the country during the last few years, uprooting prejudice, and setting aside old-timed ideas. This feeling was undoubtedly generated by spirited articles in *The Practitioner*, nurtured in the arms of other medical and lay papers, and brought to maturity by the formation of various sanatoria for well-to-do patients throughout the land. That the idea was not the exaggerated dream of an enthusiast is shown by the fact that it is not ephemeral in character, but is standing adverse criticism, and that which is greater than all criticism—the test of time.

Ten years ago sanatorium treatment was practically not mentioned in our medical schools, whilst to-day it is a common topic of conversation. Three years back, with one or two exceptions, there were no sanatoria in the British Isles, and yet to-day there are over thirty in full working order. We would ask why there should be this sudden up-springing of sanatoria unless this treatment were a success? Those who deny the good results obtained in sanatoria speak in ignorance, because they do not know. We do not claim that sanatorium treatment is a panacea for every tubercular ailment, and that every case, however far advanced, will be benefited by such treatment. Far from it. We know only too well our limitations; but this we do claim, that it gives far better results than any other method of treatment that we know as yet. Let it once be allowed that pulmonary tuberculosis is curable, and that under ordinary circumstances and without undue care, then is it too much to assert that arrest and obsolescence of the disease can and do take place in sanatoria, where patients are under constant

supervision and where everything is made subservient to the all important idea of getting well.

Hippocrates held the view that, if a "consumptive" patient be treated from the beginning, he will get well. He advised exercise and rest, the two important points in the treatment of to-day. Pliny, Celsus, Galen, and others, also looked upon tuberculosis as curable. In fact nothing is more interesting than to read the history of tuberculosis, and to see how firmly this belief was held in bygone ages. Carswell wrote in 1838: "Pathological anatomy has never given more decisive proof of the curability of a disease than it has given for pulmonary consumption." This point cannot be disputed.

Healed tubercular lesions have been found in varying proportions in persons dying from some other disease.

| | | | | |
|---|---|---|---|---|
| Ormerod found arrest in | 4 | per cent. | of | cases. |
| Kingston Fowler | 9 | ,, | ,, | |
| Sidney Martin | 9 | ,, | ,, | |
| Heitler (Vienna) | 4 | ,, | ,, | |
| Fürbringer (Berlin) | 10 | ,, | ,, | |
| Osler | 7 | ,, | ,, | |
| Coats | 4 | ,, | ,, | |

That great master of clinical medicine, Charcot, wrote that phthisis is susceptible of being cured completely and definitely, even at the period of cavitation.

Practically every country in Europe boasts of sanatoria. In Germany they have existed for over forty years; there is one in connection with most large towns, and insurance companies are even building sanatoria in which their own policy-holders can be treated when the disease has been detected. America has also many excellent sanatoria. In fact in the British Isles we are far behind almost every other country, and we are still asking one another whether the treatment can possibly be carried out in this country with any success, and whether the craze will last.

Let us say at once that we believe that the treatment can for the majority of people be quite well carried out in England, Scotland, or Ireland, and with excellent results. We do not say that climate has no effect on the disease, but that climate

has very much less effect than most people think, and given a good soil and good protection from winds, we do not care much for climate; in fact we think that an Englishmen can be cured in his own country, and that he should be if he intends to live in it afterwards. We believe most strongly that cases that recover in Switzerland, Canada, The Cape, or Australia, can recover equally well in England. Cases that react to the treatment in one country can react to it in another under suitable circumstances. We put the matter strongly, because patients have done well, and will do well, in British sanatoria under strict supervision, and we think that the time has now come to erect in this country sanatoria for the poorer classes. It is not a leap into the unknown, it is simply following where others lead. The open-air treatment is no fad, it is recognised as *the* treatment of the day.

The questions may arise—What is the use of Sanatoria? and, Cannot patients be treated at home? We would answer the second question first, and that very decidedly in the negative. It would be difficult to treat well-to-do patients in country houses, but it would be absolutely impossible to treat the poor in their cottages in large towns. This is only in accordance with common sense. The treatment consists in: 1. Constant supervision. 2. Fresh air. 3. Rest. 4. Exercise. 5. Food (in abundance). Food is no good without fresh air; exercise is dangerous without medical supervision. It is the combination of all these points that leads to success; one merges imperceptibly into the other; take one away and the whole treatment is spoilt. It is obvious that the treatment can only be thoroughly carried out in a sanatorium; to attempt to carry it out at home without being educated in a sanatorium is to bring discredit on a good system. Secondly, to deal with the uses of a sanatorium. The greatest use, in our opinion, is, that it is a school for discipline and education. For discipline, because patients have to keep regular hours, and to fall in with the rules of an institution; and as the majority of patients are young, this discipline is doubly urgent. For education, because they have to learn: 1. That the disease is infectious, that they must not spit here, there, and everywhere, but in the proper pocket-flasks, and that sputum

must not be swallowed; and thus dissemination of disease is prevented and auto-infection reduced to a minimum. 2. That all winds must be avoided, and consequently that walks must be chosen according to the wind. 3. That no exercise must be taken while the temperature is raised. 4. That all violent exercise must be given up, such as dumb-bells and rowing. 5. That there must be rest before meals. 6. That the whole twenty-four hours must be spent in the open air. The educational side is most important, as few patients can afford to stay in a sanatorium until they are well, nor indeed is this necessary. Educate patients to an open-air life and then they can carry it out in the country, but do not try to carry out treatment in a country house, until your patients have been educated in a sanatorium. Three months in a sanatorium will send patients home with air-hunger; they will be unable to live without open windows; they will have no fear of night air, and a rainy day will not keep them indoors; they will no longer be a source of infection to their friends, and they will know how to carry on treatment.

How long is it necessary to live in a sanatorium? The longer the better. Do not send advanced cases and expect, as some people do, to find them well in three months; it is expecting what is impossible. *Nobody is cured in three months.* The disease may be arrested in a few cases, but not cured. A cure is a case that can stand the test of time. If a patient has no physical signs, no temperature, no cough or expectoration, and if he keeps up this condition for two or three years, then and only then can he be called cured. Anything less than this may be a complete arrest, but it is not a cure. It is a mistake to expect miracles to be wrought in a sanatorium. There may be, and are, excellent recoveries, but these are all the result of careful supervision spread over many months. Advanced cases require from eighteen months to two years for recovery. If all patients were told this, there would be fewer disappointments because they were not cured at the end of twelve weeks. In the face of this it seems to us imperative that only incipient cases should be sent to sanatoria for the poorer classes; to send advanced cases is to court failure. It may seem hard, but we are sure it is wise: the old saying, that a prognosis depends to

a great extent upon a man's means, still holds good. The man who can live in a sanatorium for twelve months, and then spend the rest of his life, or at any rate two or three years, as a country gentleman, must necessarily stand a better chance of getting well than a poor man who, after three to four months' treatment, has to go back to an ill-ventilated, badly-drained, sunless cottage in the centre of some big town.

The results of sanatorium treatment are very gratifying. Within a very short time weight is put on—often three to five pounds per week for the first few weeks, the temperature falls, the night sweats are lost, the appetite improves, the complexion becomes healthy, the cough and expectoration are lessened. An increase in weight by itself is worthless and misleading; it is to be regarded with caution unless accompanied by some other good sign, such as improved complexion (which is very important) or a falling temperature. Here again we would lay great stress upon the importance of taking a *rectal* temperature. It is one of the secrets of success, as in many cases both the oral and axillary temperatures are misleading, scarcely ever rising above normal, whilst the rectal record shows at once the slightest activity.

The question is often asked—Will any treatment such as a serum or an antitoxin in time to come supersede sanatorium treatment? We believe not, as we consider that, for any treatment to be successful, the general health must be good, and this is best achieved in a sanatorium. Any antitoxin treatment will simply be carried out in conjunction with sanatorium treatment, and even then will be a work of time.

We repeat that the open-air treatment in a sanatorium is the best treatment yet known, and it gives such good results that it is our duty as a philanthropic nation to put this treatment within the reach of our poorer brethren, by building sanatoria into which they can be admitted free of charge.

# STATISTICS CONCERNING CONSUMPTION AND OTHER PREVENTABLE DISEASES.

BY

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Now that the crusade against consumption is to be carried on in Gloucester, Somerset, and Wilts, it appears desirable to bring together some figures which may be of service in evoking local interest by comparing the death returns for these three counties with those for England and Wales. The latest returns available are for the year 1898, in the sixty-first Annual Report of the Registrar-General, published in 1900. The total number of deaths in England and Wales during the year was 552,141, equivalent to an annual death-rate of 17.586 per 1,000 living persons. About 164,000 persons were killed by diseases which are obviously preventable; and in addition to these, many persons died of chronic diseases which are not so easily traced to their remote causes, but which are, nevertheless, just as preventable, if dealt with at the proper stage, as those diseases which run their course so rapidly as to leave no doubt as to cause and effect. The following table shows the number of deaths from various causes; but those ascribed to rheumatism must be but a very small proportion of the real number actually caused by rheumatism and rheumatic fever. Many diseases of the circulatory system—including apoplexy—which together caused about 77,000 deaths in 1898, owed their origin to injury done to the heart or blood-vessels by a previous attack of rheumatic or some other specific fever.

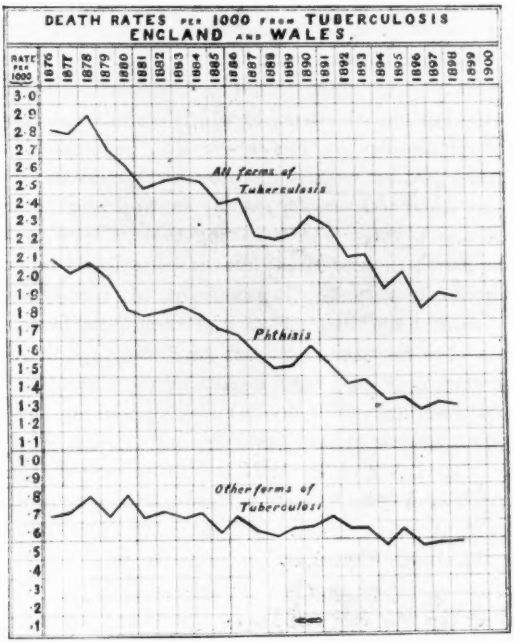
From Chart A and Table II. it will be seen that, although there has been a considerable reduction in the death-rate from all forms of tubercular disease, the mortality at the present time is still alarming. Consumption is most fatal among young adults; the average number of deaths each year from this disease, for the ten years 1881–90, was 66,526, and of these no

## TABLE I.

### Deaths in England and Wales, during the year 1898.

| | | | |
|---|---|---|---|
| Deaths from all causes ... ... ... ... ... | | | 552,141 |
| ,, ,, | Accidents and Violence ... ... | | 20,278 |
| ,, ,, | Preventable Diseases ... ... ... | | 163,795 |
| ,, ,, | Consumption ... ... ... | | 60,139 |
| ,, ,, | Diarrhœa and Enteritis ... ... | | 46,310 |
| ,, ,, | Measles ... ... ... ... | | 13,220 |
| ,, ,, | Influenza ... ... ... ... | | 10,405 |
| ,, ,, | Whooping Cough ... ... ... | | 10,175 |
| ,, ,, | Diphtheria ... ... ... ... | | 7,661 |
| ,, ,, | Typhoid or Enteric Fever ... | | 5,708 |
| ,, ,, | Scarlet Fever ... ... ... | | 3,548 |
| ,, ,, | Rheumatism ... ... ... | | 3,320 |
| ,, ,, | Puerperal Fever ... ... ... | | 1,707 |
| ,, ,, | Erysipelas ... ... ... .. | | 970 |
| ,, ,, | Small Pox ... ... .. ... | | 253 |
| ,, ,, | Minor Preventable Diseases ... | | 469 |

## CHART A.



## TABLE II.

### Death-rates, Tubercular Disease (all forms), Consumption of Lungs, Bowels, and Brain.

MORTALITY AT ALL AGES PER MILLION LIVING.

| | Males. | | Females. | | Reduction per cent. | | Mortality, 1898. | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1861-70 | 1891-97 | 1861-70 | 1891-97 | M. | F. | Males. | Females. | Persons |
| ALL FORMS. | 3,337 | 2,304 | 3,148 | 1,835 | 31 | 42 | 2,175 | 1,671 | 1,916 |
| LUNGS. | 2,467 | 1,598 | 2,483 | 1,259 | 35 | 49 | 1,514 | 1,131 | 1,317 |
| BOWELS. | 320 | 247 | 272 | 208 | 23 | 24 | 220 | 186 | 202 |
| BRAIN. | 412 | 250 | 285 | 196 | 39 | 31 | 237 | 190 | 213 |

MORTALITY OF CHILDREN UNDER ONE YEAR OF AGE PER MILLION BIRTHS.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ALL FORMS. | 10,598 | 9,046 | 8,447 | 7,203 | − 15 | − 15 | 8,428 | 6,845 | 7,648 |
| LUNGS. | 1,437 | 647 | 1,299 | 550 | − 55 | − 58 | 572 | 495 | 534 |
| BOWELS. | 4,112 | 4,278 | 3,474 | 3,454 | + 4 | − 1 | 3,831 | 3,229 | 3,536 |
| BRAIN. | 4,239 | 2,446 | 2,974 | 1,795 | − 42 | − 40 | 2,409 | 1,832 | 2,150 |
| | Males. | | Females. | | Difference '61-70 to '91-97. | | Males. | Females. | Persons |

fewer than 43,832 deaths were those of persons between the ages of 15 and 65 years, the wage-earning period of life.

The question of disease-prevention is very largely a financial question; and when a sufficient number of persons can be made to see it pays to prevent disease the financial difficulty will disappear. Sanitary reformers have received most encouragement and made most progress in preventing the acute diseases of adults. Expense is scarcely considered in fighting plague, cholera, small pox, or epidemic typhoid fever; but children are allowed to die by tens of thousands every year from consumption, diarrhœa, measles, and whooping cough, without any great effort being made to save them. Such an unnecessary loss of life will not be tolerated when the nation wakes up to the importance of saving infant life, in order to counteract the diminution of the birth-rate and to keep up the position of England as a Great Power. From 1881–90 average of 66,526 deaths every year from consumption, the number of deaths has been reduced to 60,139 in the year 1898; namely, 41,335 deaths from phthisis or consumption of the lungs, and 18,804 deaths from other forms of tuberculosis. Compared with these figures, the loss of life in military operations is very small. *The Times*

on January 5th, 1901, reprinted the return of deaths, the total number of men killed in action or dying in the service of the army during seven years' war with France, 1793 to 1800; and the total number of deaths was 48,971, or considerably less than the number of persons killed in one year, year after year, by consumption. The war in South Africa has been a bloody war, but the total reported as killed in action, died of wounds or disease, up to the end of December was 12,158; and of these, 7,185 died of disease, mostly preventable. Consumption kills nearly five times as many every year. The following tables will show the numbers killed in the three counties, Gloucester, Somerset, and Wilts, and in the registration districts of Somerset, and the percentage of deaths from tuberculosis to deaths from all causes.

The number of actual deaths are given for the year 1898, and the mean annual number of deaths and mean death-rates for the ten years 1881–90. The death-rates for deaths from all causes are for standard mean population—the mortality being calculated for each age group separately, and then for a population of 1,000 having the same proportion of each age group as the population of England and Wales. The variations caused in the crude death-rate by different proportions of young and old people are thus eliminated. The Registrar-General does not publish corrected death-rates for special diseases, and the death-rates from tuberculosis for different districts are not strictly comparable without this correction for age grouping. Table V. shows the average number of deaths in the three counties at various age periods, and we find that between the ages of 15 and 35 years, the most enjoyable period of life, consumption causes nearly one-half the total number of deaths.

Until recently the Registrar-General did not make any correction for persons dying in the hospitals at Bath, but belonging to other districts, having only been brought into Bath for treatment, so the death returns for the city appear slightly higher than they really are. The following will show the corrections for 1898:—

| | |
|---|---|
| Crude or uncorrected death-rate per 1,000 persons | 16.3 |
| Death-rate per 1,000 standard population ... | 15.3 |

## TABLE III.

### Mortality from All Causes and from Tuberculosis.

MEAN ANNUAL DEATH-RATES FROM ALL CAUSES, 1881-90, PER 1,000, STANDARD POPULATION.
MEAN ANNUAL CRUDE DEATH-RATES FOR ALL FORMS OF TUBERCULOSIS, 1881-90, PER 1,000 OF EACH SEX, AND OF PERSONS.
MEAN ANNUAL NUMBER OF DEATHS FOR 1881-90, AND PERCENTAGE OF DEATHS FROM TUBERCULOSIS.
NUMBER OF DEATHS FROM ALL CAUSES AND FROM TUBERCULOSIS IN THE YEAR 1898.

| District and Area in Acres. | Sex. | Population—Census 1891. | Mean Death-Rates, 1881-90. | | Mean Number of Deaths Yearly, 1881-90. | | Tuber-culosis. | Deaths, 1898. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | All Causes. | Tuber. | All Causes. | Tuber. | per cent. | All Causes. | Tubercular. |
| ENGLAND— | M. | 14,052,901 | 20.22 | 2.62 | 269,832 | 35,000 | 13 | 283,981 | 33,098 |
| 37,317,885 | F. | 14,949,624 | 18.01 | 2.23 | 254,646 | 31,527 | 12.4 | 268,160 | 27,041 |
| Acres. | P. | 29,002,525 | 19.08 | 2.42 | 524,478 | 66,526 | 12.7 | 552,141 | 50,139 |
| THREE COUNTIES | M. | 619,675 | 16.93 | 2.06 | 11,268 | 1,247 | 11.1 | 10,552 | 1,063 |
| 2,592,156 | F. | 694,466 | 15.06 | 1.83 | 11,240 | 1,243 | 11.1 | 10,538 | 934 |
| Acres. | P. | 1,314,081 | 16.08 | 1.93 | 22,508 | 2,489 | 11.1 | 21,090 | 1,997 |
| GLOUCESTER— | M. | 255,341 | 18.09 | 2.16 | 4,781 | 542 | 11.3 | 4,585 | 504 |
| 709,622 | F. | 293,545 | 15.75 | 1.91 | 4,787 | 546 | 11.4 | 4,531 | 410 |
| Acres. | P. | 548,886 | 16.89 | 2.02 | 9,568 | 1,088 | 11.4 | 9,116 | 914 |
| WILTS— | M. | 125,696 | 15.14 | 1.95 | 2,137 | 242 | 11.3 | 1,957 | 180 |
| 809,220 | F. | 129,423 | 14.76 | 1.89 | 2,126 | 242 | 11.4 | 1,870 | 167 |
| Acres. | P. | 255,119 | 14.95 | 1.92 | 4,262 | 484 | 11.4 | 3,807 | 347 |
| SOMERSET— | M. | 238,638 | 16.61 | 1.97 | 4,350 | 463 | 10.6 | 4,030 | 379 |
| 1,073,314 | F. | 271,438 | 14.46 | 1.71 | 4,328 | 454 | 10.5 | 4,137 | 357 |
| Acres. | P. | 510,076 | 15.50 | 1.83 | 8,678 | 917 | 10.6 | 8,167 | 736 |

## TABLE IV.

### Registration Districts of Somerset.

MEAN ANNUAL DEATH-RATES FROM ALL CAUSES AND FROM TUBERCULOSIS, 1881–90, PER 1,000 PERSONS LIVING, AT ALL AGES.
MEAN ANNUAL DEATHS, 1881–90, WITH PERCENTAGE OF DEATHS FROM TUBERCULOSIS.
DEATHS FROM ALL CAUSES AND FROM TUBERCULOSIS IN THE YEAR 1898.

| District. | Area in Acres. | Population, 1891. | Mean Death-Rates, 1881-90. | | Mean Deaths, 1881-90. | | | Deaths, 1898. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | All Causes | Tuberculosis. | | | |
| | | | All Causes. | Tuber. | Deaths. | Deaths. | Per Cent. | All Causes. | Tuber. |
| Williton ... ... ... ... | 100,679 | 17,155 | 13.38 | 1.43 | 292 | 26 | 8.8 | 237 | 24 |
| Dulverton ... ... ... ... | 78,980 | 4,922 | 12.67 | 1.43 | 80 | 8 | 9.3 | 65 | 9 |
| Wellington ... ... ... | 61,093 | 18,410 | 14.31 | 1.72 | 326 | 32 | 9.9 | 289 | 26 |
| Taunton ... ... ... ... | 73,109 | 36,779 | 16.75 | 1.89 | 680 | 69 | 10.0 | 643 | 67 |
| Bridgwater ... ... ... | 88,475 | 32,758 | 14.31 | 1.75 | 561 | 59 | 10.5 | 522 | 33 |
| Langport ... ... ... ... | 59,410 | 14,478 | 14.47 | 1.68 | 264 | 25 | 9.6 | 210 | 17 |
| Chard ... ... ... ... ... | 57,451 | 24,825 | 15.48 | 1.96 | 435 | 49 | 11.3 | 341 | 35 |
| Yeovil ... .. ... ... ... | 55,752 | 28,431 | 15 23 | 1.80 | 469 | 50 | 10.6 | 372 | 30 |
| Wincanton ... ... ... ... | 64,540 | 18,251 | 14 80 | 1.76 | 337 | 34 | 10.2 | 214 | 16 |
| Frome ... ... ... ... ... | 52,752 | 22,850 | 14.61 | 1.45 | 389 | 33 | 8.6 | 371 | 32 |
| Shepton Mallet ... ... | 50,109 | 15,559 | 14.51 | 1.44 | 268 | 23 | 8.4 | 197 | 11 |
| Wells ... ... ... ... ... | 66,646 | 23,856 | 16.82 | 2.00 | 441 | 46 | 10.3 | 450 | 38 |
| Axbridge ... ... ... ... | 97,436 | 43,704 | 14.56 | 1.99 | 693 | 83 | 12.0 | 742 | 71 |
| Clutton ... ... ... ... | 47,897 | 24,904 | 14.43 | 1.41 | 412 | 34 | 8.3 | 373 | 35 |
| Bath ... ... ... ... ... | 30,727 | 75,196 | 17.14 | 1.95 | 1,350 | 143 | 10.6 | 1,238 | 115 |
| Keynsham ... ... ... ... | 33,570 | 29,885 | 15.58 | 2.16 | 466 | 60 | 12.9 | 534 | 48 |
| Bedminster ... ... ... ... | 54,688 | 77,574 | 16.45 | 1.98 | 1,214 | 144 | 11.8 | 1,369 | 129 |

## TABLE V.

### Mortality from All Causes and from Tuberculosis.

AVERAGE ANNUAL NUMBER OF DEATHS FOR 1881-90, AT VARIOUS AGES.
PERCENTAGE OF DEATHS FROM TUBERCULOSIS TO DEATHS FROM ALL CAUSES.

| | | All Ages. | Under 5. | 5-15. | 15-25. | 25-35. | 35-45. | 45-65. | 65 & over. |
|---|---|---|---|---|---|---|---|---|---|
| ENGLAND AND WALES— Mean Population, 27,488,482 | **All Causes.** | 524,477 | 200,998 | 26,401 | 25,906 | 30,755 | 35,784 | 89,839 | 114,795 |
| | **Tuberculosis.** | 66,526 | 15,914 | 5,251 | 11,082 | 12,375 | 10,153 | 10,222 | 1,530 |
| | **Percentage.** | 12.7 | 7.9 | 19.9 | 42.8 | 40.2 | 28.4 | 11.3 | 1.3 |
| THREE COUNTIES— Mean Population, 1,289,305 | **All Causes.** | 22,508 | 6,734 | 1,026 | 1,061 | 1,168 | 1,363 | 3,989 | 7,167 |
| | **Tuberculosis.** | 2,489 | 476 | 211 | 473 | 493 | 373 | 392 | 71 |
| | **Percentage.** | 11.1 | 7.1 | 20.6 | 44.6 | 42.2 | 27.4 | 9.8 | 1.0 |
| GLOUCESTER— Mean Population, 537,026 | **All Causes.** | 9,568 | 3,100 | 453 | 450 | 512 | 608 | 1,677 | 2,769 |
| | **Tuberculosis.** | 1,088 | 220 | 97 | 196 | 210 | 167 | 170 | 29 |
| | **Percentage.** | 11.4 | 7.0 | 21.4 | 43.6 | 41.0 | 27.5 | 10.1 | 1.0 |
| WILTS— Mean Population, 215,940 | **All Causes.** | 4,262 | 1,157 | 187 | 199 | 221 | 242 | 774 | 1,482 |
| | **Tuberculosis.** | 484 | 93 | 39 | 91 | 97 | 68 | 80 | 16 |
| | **Percentage.** | 11.4 | 8.0 | 20.9 | 45.7 | 43.9 | 28.1 | 10.3 | 1.0 |
| SOMERSET— Mean Population, 500,339 | **All Causes.** | 8,678 | 2,477 | 387 | 412 | 435 | 513 | 1,538 | 2,916 |
| | **Tuberculosis.** | 917 | 162 | 75 | 187 | 187 | 137 | 142 | 26 |
| | **Percentage.** | 10.6 | 6.5 | 19.4 | 45.4 | 43.0 | 26.7 | 9.2 | 0.9 |
| BATH DISTRICT— Mean Population, 72,970 | **All Causes.** | 1,350 | 341 | 51 | 61 | 72 | 96 | 266 | 463 |
| | **Tuberculosis.** | 143 | 22 | 11 | 25 | 28 | 27 | 28 | 3 |
| | **Percentage.** | 10.6 | 6.5 | 21.6 | 41.0 | 38.9 | 28.1 | 10.5 | 0.7 |

| | |
|---|---|
| Death-rate corrected for persons dying in hospitals ... ... ... ... ... ... ... ... | 14.1 |
| Death-rate from phthisis per 1,000 persons ... | 1.12 |
| Death-rate from phthisis per 1,000 standard population ... ... ... ... ... ... ... | 1.06 |
| Death-rate from other tubercular diseases per 1,000 persons ... ... ... ... ... ... ... | 0.46 |
| Death-rate from other tubercular diseases per 1,000 standard population ... ... ... | 0.62 |

The occupations followed by the population have considerable influence on the death-rate from consumption in any locality; but it is not easy to determine how far the disease is the result of the occupation. Weakly persons will naturally choose indoor occupations, unless they are better advised; while the robust will be inclined to out-of-door work, and will be less likely to suffer from consumption than those who get impure air. Table VI. gives the percentages of deaths from phthisis to deaths from all causes at various age periods among different classes for the years 1890-2. These are calculated from figures given in Part II. of the Supplement to the *Fifty-fifth Annual Report of the Registrar-General*, p. 150:—

TABLE VI.

**Comparative Mortality from Phthisis in various Occupations, 1890-92.**

NUMBER OF DEATHS FROM PHTHISIS PER HUNDRED DEATHS FROM ALL CAUSES.

| Age Period:— | 15 to 20 | 20 to 25 | 25 to 35 | 35 to 45 |
|---|---|---|---|---|
| All Males ... ... .. | 28 | 39 | 36 | 27 |
| Miners ... ... ... ... | 16 | 25 | 20 | 16 |
| Merchant Seamen ... | 17 | 26 | 29 | 20 |
| Farmers ... ... ... ... | 31 | 35 | 29 | 22 |
| Farm Labourers ... ... | 24 | 36 | 35 | 26 |
| Builders ... ... ... ... | 30 | 38 | 38 | 32 |
| Shopkeepers ... ... ... | 28 | 48 | 40 | 29 |
| Commercial Clerks ... | 40 | 52 | 45 | 32 |
| School Teachers ... ... | 54 | 52 | 41 | 31 |

The geographical distribution of tubercular disease shows great variety, as may be seen by comparing the mean annual death-rates from phthisis for registration counties, the death-rates being properly corrected for the age and sex distribution of the populations of the counties. During 1881-90 the average annual death-rate from pulmonary phthisis in England and Wales was 1.7; during the same period the rate for North Wales was 2.1, and for the county of Worcester 1.2 per 1,000. Taking the death-rate in England from phthisis as 1,000, the comparative mortality in North Wales was 1,255, while in Worcester the comparative mortality from phthisis was 706. All manner of explanations, based chiefly upon geological and meteorological considerations, have been offered to account for these variations. Dr. Alfred Haviland ascribed the low death-rate from consumption, among populations living in sheltered valleys, to protection from strong winds. Dr. Haviland suggests a fatal element in these winds: "such as *ozone*, which finds its way straight to the tuberculous matter, attacks it, inflames its surroundings, and sloughs it out, killing the host, just like the lymph of Dr. Koch, which, when injected, is said instinctively to rush off to seize its quarry, *tubercle*."[1] A more modern explanation of the variation is that persons living in places exposed to the force of the wind keep the doors and windows of their houses shut, and so really get less fresh air, less ozone, than those who live in more sheltered spots, where the doors and windows may be freely opened. Other observers consider the chief local predisposing cause of phthisis to be dampness of subsoil and flatness of the ground. Dr. Buchanan showed that great diminution in the number of deaths from phthisis followed the laying of main drains in various towns; for example, he quoted the reduction in the death-rates by phthisis in the following towns among others:—Salisbury, 49 per cent. of its previous rate; Cheltenham, 26; and Bristol, 22 per cent. These figures help to prove that natural defects in subsoil may be overcome by artificial means. Occupation and education, the capability of providing large rooms, good food and attention for children and

[1] *The Geographical Distribution of Disease in Great Britain*, 2nd Ed., 1892, p. 29.

old persons have probably far more influence on the death-rate than any circumstance connected with the configuration of the ground in most English towns. The death-rate may be a measure of the average sanitary condition of a town or district; but it is of very little importance to an individual or family going to reside in the district, the condition of the particular house chosen as a dwelling is far more important.

Groups of houses in any districts will be found to differ, as regards prevalence of phthisis, far more than any two districts; and if the incidence of tubercular diseases among the inhabitants of any street of badly constructed houses is noted for a sufficient length of time, and spot-maps of deaths from tuberculosis prepared, the distribution of the deaths will be found to be in groups, somewhat similar to the grouping of infectious cases, and different to the arrangement noticed when deaths from non-infectious endemic diseases are studied. The number of multiple deaths occurring in houses will be largely in excess of the number calculated by any of the mathematical formulæ commonly used for estimating the probable recurrence of any event. Thus, in a period of 32 years, there were among 9,000 occupied houses in Bath 1,813 houses in which one death from some tubercular disease occurred, and there were 473 houses with two such deaths, the probable number being calcuated as 108, or less than one-fourth the observed number. There were 112 houses with three deaths, the calculated number being six, and 47 houses with four deaths from tuberculosis, while, by chance, there should have been no house with four deaths from this cause during 32 years.

The above statistics only show the number of deaths. Many persons suffer from tubercular disease who do not die from this cause, and there must be at least 6,000 persons in the counties of Gloucester, Somerset, and Wilts who are suffering from consumption at the present time. What can we do to diminish this suffering and fearful loss of life? The notification of cases of consumption, the provision of sanatoria, disinfection and improvement of rooms occupied by the consumptive, surgical attention to the throats of children,

and the avoidence of dust in occupied rooms are required in addition to ordinary precautions.

The infectiousness of consumption is practically limited to the dried sputum of the consumptive person—the matter expectorated from the lungs,—if this is rendered harmless, there is no danger to others, and the chance of re-infection of the consumptive is reduced. The breath of a consumptive person is not infectious, and there is no good reason why such a person should be shut off from society or from work, if proper precautions are taken; but a careless or ignorant consumptive person is a source of great danger.

A sanatorium for consumptives is certainly not injurious to the surrounding population, its influence is altogether in the other direction. Sanatoria are built far away from great towns to secure a pure atmosphere and to protect the occupants from chance infection of common catarrhs and influenza. The isolation of the consumptive for a few months is recommended for the benefit of the patient, not for the protection of the public.

The general public can be best protected by securing healthy sanitary conditions as to food and food stores; by cleanliness of person, house, and town; and, above all, by recognising fresh air as the most important of all foods. All windows should be made to open freely, especially the upper sashes; if these are fixed, the upper part of the room cannot be properly ventilated or swept out by fresh air. We carefully protect our drinking water from pollution with sewage; it is quite as important to keep the atmosphere we breathe free from the sewage or waste products of the lungs. Persons living in an impure atmosphere are easily infected by many diseases, and life is not only shortened, but rendered unpleasant. Our endeavour should be directed to increasing the resisting power of the individual, so that he may withstand infectious matter just as the rocks withstand the ocean waves.

# A RETROSPECT OF A THIRD SERIES OF FIFTY CONSECUTIVE INTRA-ABDOMINAL OPERATIONS.

BY

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I PREFER to present this series of cases in the same form as before, leaving those who have a mind for statistics to deal with them in such manner as pleases them. The table given below is simply arranged chronologically, without any attempt at other classification.

This series is continuous with the former two,[1] and the same limitation (as to the exclusion of operations upon the kidney, bladder, etc.) has been adopted as before. The most interesting features are perhaps to be found in the variety of some (*e.g.* cases 24, 30, etc.) conditions, and the complexity of others (*e.g.* cases 28, 37, etc.): at all events there was more than sufficient provision for such diagnostic acumen and manipulative dexterity as one might possess; and if the number of cases quoted is large, I trust that the notes will contain enough of value to render an apology unnecessary.

In discussing these cases it is convenient to group together those of a similar nature; but details are given only in those which present some important feature.

*A*.—**Operations for Diseases of the Ovaries and Fallopian Tubes.**—CASES 5, 10, 12, 14, 17, 18, 21, 27, 28, 30, 32, and 37.

Clinically, this group may be divided into—

**Adeno-cystoma.**—CASES 5, 10, 14, 18, 27 and 32.

**Intra-ligamentary Cyst.**—CASE 30.

**Salpingo-oöphoritis and Tubo-ovarian Abscess.**—CASES 12, 28 and 37.

**Columnar Epithelioma of Ovary.**—CASE 21.

**Oöphoritic Cyst and Dysmenorrhœa.**—CASE 17.

Of the **adeno-cystomata**, the opposite ovary had undergone

[1] *Bristol M.-Chir. J.*, 1898, xvi. 211; 1900, xviii. 103.

cystic degeneration to such an extent as to necessitate removal in four cases.

Attacks of pain and vomiting, especially if accompanied by collapse, in association with ovarian cysts are frequently dependent upon **twisting of the pedicle.** Such symptoms are of serious import, for unless speedy relief is afforded by operation death from suppuration and peritonitis may follow. Strangulation from torsion is more likely to occur in tumours possessing a long pedicle: the twisting is probably caused by peristaltic movements of the intestines. An example is afforded in the following case of a small tumour with a long pedicle moving freely among the intestines:—

CASE 27.—**Ovarian Adeno-cystoma with Twisted Pedicle.**—The patient had had two attacks of violent pain in the right side of the abdomen, accompanied by vomiting. When first seen she was pale, rather collapsed, and constantly complaining of pain in the right side and shooting down the legs. Temperature 99.2. A tumour about the size of the closed fist was found below and to the right of the umbilicus, and it was so freely movable that it could be placed in almost any part of the abdomen below a line joining the cartilages of the ninth rib. It could also be pressed down into the pelvis to the right side of the uterus, which was normal in size. Operation showed the tumour to be a right-sided ovarian adeno-cystoma with a long pedicle which was twisted for one complete turn. Some of the cysts contained clear yellow fluid, but here and there the contents were turbid. The cyst-wall contained dark, scattered patches from hemorrhage. The left ovary was also cystic. Both ovaries were removed, and the patient made an uninterrupted recovery.

A few interesting features of some of the other cases of **adeno-cystoma** may be briefly referred to:—

CASE 14 was associated with a milky fluid in each breast, though there were no other signs of pregnancy.

CASE 5 actually believed herself to be pregnant, as the tumour commenced soon after marriage. She subsequently became pregnant, and a child was born about thirteen months after marriage; and after this the tumour became larger and was tapped. This tapping was doubtless responsible for the adhesions to the anterior parietes which I found on performing ovariotomy five weeks after the birth of the child.

CASE 32 was an enormous tumour causing dulness over the whole abdomen, except where the intestines were pushed up in the epigastrium and annulled the liver dulness. The patient was almost pulseless, and it was only by operating rapidly that a successful result ensued. Adhesions—probably due to a previous tapping—were present over the entire front of the cyst wall. The cyst contained 27½ pints of an opaque yellowish-green alkaline fluid, sp. gr. 1022, containing 3.2 per cent. of albumin, .6 per cent. of urea, and some para-globulin and serum albumin.

## FIFTY CONSECUTIVE INTRA-ABDOMINAL OPERATIONS.

| No. | Sex and Age. | Medical Attendant. | Disease. | Treatment. | Result. |
|---|---|---|---|---|---|
| 1 | M. 68 ... | ... ... ... ... | Carcinoma of hepatic flexure of colon | Colostomy ... ... ... ... | Died. |
| 2 | M. 11 ... | Dr. H. Skelton ... | Appendicitis. Perforation of gut | Cœliotomy—drainage ... ... | Died. |
| 3 | F. 32 ... | Dr. J. Ambrose ... | Sinus following appendicitis ... | Cœliotomy—tamponnage ... ... | Recovered. |
| 4 | M. 61 ... | Mr. J. D. Staple ... | Volvulus. Intestinal obstruction... | Liberation of adhesions ... ... | Recovered. |
| 5 | F. 21 ... | Mr. E. F. Clowes ... | Ovarian adeno-cystoma (left)—cystic ovary (right) | Ovariotomy (left)—salpingo-oöphorectomy (right) ... ... ... | Recovered. |
| 6 | F. 54 ... | ... ... ... ... | Cirrhosis of liver ... ... ... | Hepatopexy ("Morison's operation") | Died. |
| 7 | M. 55 ... | Mr. T. M. Carter ... | Malignant stricture of rectum ... | Colostomy ... ... ... ... | Recovered. |
| 8 | F. 15 ... | Dr. E. B. Garland ... | Appendicitis .. ... ... ... | Abdomino-vaginal drainage ... | Recovered. |
| 9 | F. 22 ... | Dr. Macrae ... ... | Perforating gastric ulcer ... .. | Gastrorraphy ... ... ... | Died. |
| 10 | F. 35 ... | Mr. J. H. Parry ... | Ovarian cyst (universally adherent) | Exploratory cœliotomy ... ... | Recovered. |
| 11 | F. 33 ... | Dr. E. L. Lees... ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 12 | F. 35 ... | Mr. C. J. Perrott ... | ? Tubo-ovarian abscess (left). Intestinal perforation... ... ... | Cœliotomy—drainage ... ... | Recovered. |
| 13 | F. 22 ... | Dr. J. C. Maclean ... | Intestinal colic ... ... ... | Exploratory cœliotomy ... ... | Recovered. |
| 14 | F. 40 ... | Mr. E. H. Openshaw ... | Ovarian adeno-cystoma (right)—cystic ovary (left) ... ... | Ovariotomy (right) — salpingo-oöphorectomy (left) | Recovered. |
| 15 | F. 24 ... | Dr. R. Roxburgh ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 16 | F. 41 ... | Dr. J. C. Maclean ... | Tubercular peritonitis ... ... | Cœliotomy ... .. ... ... | Recovered. |
| 17 | F. 26 ... | Dr. J. C. Maclean ... | Dysmenorrhœa—cystic ovary (right) | Salpingo-oöphorectomy (double) ... | Recovered. |
| 18 | F. 49 ... | Dr. S. H. McQuade ... | Ovarian adeno-cystoma (left) ... | Ovariotomy ... ... ... ... | Recovered. |
| 19 | F. 42 ... | Dr. A. B. Blair ... | Myo-fibroma of uterus ... ... | Retro-peritoneal hystero-myomectomy | Recovered. |
| 20 | F. 35 ... | Mr. C. J. Perrott ... | Intestinal fistula ... ... ... | Jejunorraphy... ... ... ... | Recovered. |
| 21 | F. 26 ... | Dr. E. F. Martin ... | Columnar epithelioma of ovary (right) ... ... ... ... | Ovariectomy... ... ... ... | Recovered. |
| 22 | M. 65 ... | Dr. R. Roxburgh ... | Cholelithiasis ... ... ... | Cholecystotomy ... ... ... | Recovered. |
| 23 | F. 15 ... | Dr. E. B. Garland ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 24 | F. 28 ... | Dr. H. S. Ballance .. | Polypoid fibroma of pylorus ... | Excision of growth—pylorectomy | Recovered. |
| 25 | M 18 ... | Mr. J. Dacre ... ... | Rupture of intestine ... ... | Jejunorraphy... ... ... ... | Died. |

| No. | Sex and Age. | Medical Attendant. | Disease. | Treatment. | Result. |
|---|---|---|---|---|---|
| 26 | M. 42 ... | Mr. B. P. B. Burroughs | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 27 | F. 25 ... | ... ... ... ... | Ovarian adeno-cystoma (double) ... | Salpingo-oöphorectomy (double) ... | Recovered. |
| 28 | F. 28 ... | Dr. S. Irwin ... ... | Tubo-ovarian abscess. Appendicitis | Appendicectomy. Salpingo-oöphorectomy (double). Abdomino-vaginal drainage | Recovered. |
| 29 | M. 50 ... | ... ... ... ... | Malignant stricture of rectum ... | Colostomy ... ... ... ... | Recovered. |
| 30 | F. 29 ... | Dr. C. P. Crouch ... | Multiple cysts of broad ligaments | Enucleation of cysts ... ... | Recovered. |
| 31 | F. 48 ... | Dr. J. M. Rattray ... | Myo-fibroma of uterus ... ... | Exploratory cœliotomy — "morcellement" (vaginal) .. ... | Recovered. |
| 32 | F. 41 ... | Mr. Bunbury ... ... | Ovarian adeno-cystoma (left) — cystic ovary (right) ... ... | Ovariotomy (left)—salpingo-oöphorectomy (right) | Recovered. |
| 33 | F. 44 ... | Mr. J. S. Griffiths ... | Tumour of pancreas ... ... | Exploratory cœliotomy ... ... | Recovered. |
| 34 | F. 33 ... | Mr. G. T. Myles ... | Malignant stricture of rectum ... | Colostomy ... ... ... ... | Died. |
| 35 | F. 47 ... | Mr. H. T. Rudge ... | Myo-fibroma of uterus. Malignant disease of peritoneum ... ... | Exploratory cœliotomy ... ... | Recovered. |
| 36 | F. 39 ... | Mr. R. L. Willcox ... | Malignant disease of peritoneum... | Exploratory cœliotomy ... ... | Recovered. |
| 37 | F. 30 ... | Mr. D. Bradley ... | Salpingo-oöphoritis. Appendicitis | Salpingo-oöphorectomy. Appendicectomy | Recovered. |
| 38 | F. 22 ... | Mr. H. T. Rudge ... | Appendicitis ... ... ... ... | Appendicectomy .. ... ... | Recovered. |
| 39 | F. 78 ... | Dr. G. Parker .. ... | Carcinoma of descending colon ... | Cœliotomy ... .. ... ... | Recovered. |
| 40 | M. 9 ... | Dr. C. Matthews ... | Appendicitis ... ... ... ... | Drainage ... ... ... ... | Recovered. |
| 41 | M. 14 ... | ... ... ... ... | Perforation of intestine by a pin ... | Removal of foreign body—drainage | Recovered. |
| 42 | M. 25 ... | ... ... ... ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 43 | F. 44 ... | Dr. S. Irwin ... .. | Myo-fibroma of uterus ... ... | Retro-peritoneal hystero-myomectomy | Died. |
| 44 | M. 38 ... | Dr. H. Cook ... ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 45 | F. 44 ... | Dr. J. C. Maclean ... | Cholelithiasis ... ... ... | Cholecystotomy ... ... ... | Recovered. |
| 46 | M. 12 ... | ... ... ... ... | Appendicitis ... ... .. ... | Appendicectomy ... ... ... | Recovered. |
| 47 | F. 32 ... | Dr. J. Wallace... ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 48 | M. 21 ... | Dr. J. Michell Clarke ... | Appendicitis ... ... ... ... | Appendicectomy ... ... ... | Recovered. |
| 49 | F. 37 ... | Dr. E. F. Martin ... | Myo-fibroma of uterus ... ... | Pan-hysterectomy ... ... ... | Died. |
| 50 | F. 70 ... | Dr. R. Shingleton Smith | Carcinoma of gall-bladder and pylorus ... ... ... ... | Exploratory cœliotomy ... ... | Recovered. |

**Intra-ligamentary cysts**, other than those arising from the growth of ovarian tumours between the layers of the broad ligament, are little understood. Until I operated upon the case mentioned below, the existence of multiple intra-ligamentary cysts was unknown to me. Mr. Alban Doran, to whom I wrote on the subject, kindly informs me that he believes "that these endothelium-bearing cysts . . . are lymphatic" in origin. "The common broad ligament cyst bears epithelium."

CASE 30.—**Multiple Intra-ligamentary Cysts—Enucleation.**—Seven years before I saw her the patient was supposed to have a "hæmatocele"; and about five years after this Mr. Greig Smith performed a median cœliotomy, but closed the wound because of the presence of "tubercles." Ten months ago she had an attack of right abdominal pain, vomiting, and temperature, and was in bed for five weeks. A similar attack occurred about seven weeks ago, and the patient was still confined to bed with a temperature ranging from 98° to 103°. There had been a discharge of pus from the rectum for about four years, and amenorrhœa had existed for eighteen months. The patient looked ill and anæmic. There was tenderness in the right iliac fossa and a globular fluctuating swelling was felt in the mid-line reaching to within two inches of the umbilicus. *Per vaginam* and *per rectum* all the pelvic organs were fixed by a dense infiltration: there was slight bulging in the right lateral vaginal fornix. An incision was made at the site of the former operation, between the umbilicus and pubes. The omentum was firmly adherent to the parietes and to the pelvic wall; but on detaching this, a cyst appeared in the mid-line covered by an "extra-capsule" of broad ligament. This capsule was peeled off the true cyst, which was then tapped, and about six ounces of a turbid, greenish-yellow fluid (sp. gr. 1030, alkaline, cholesterin .2 per cent., urea .9 per cent., albumin 6.6 per cent., traces of phosphates) escaped with cholesterin crystals floating through it. A second cyst then appeared, attached to but independent of the first, and about the size of a Tangerine orange; this was similarly tapped and contained a clearer fluid. Two other smaller cysts appeared in like manner, but these burst in the process of enucleation. The collapsed cyst-walls were then completely enucleated from the capsule of broad ligament, and in so doing two very small cysts were broken into at the deeper part. The enucleation left a cavity the size of a cricket ball below and behind which the right Fallopian tube and ovary could apparently be felt embedded in dense inflammatory tissue. A cyst as large as a pigeon's egg, and containing clear fluid, was enucleated whole from the left broad ligament in a manner similar to the removal of the cysts from the right broad ligament. The floor of the pelvis was densely infiltrated with inflammatory deposit, and the top and front of the uterus were covered with adherent coils of intestine, mainly sigmoid flexure. Part of the right broad ligament capsule was cut away, and the rest sewn together with a continuous stitch so as to leave no raw surface to form adhesions. Abdomen closed without drainage. The adhesions throughout were very dense, and the operation accordingly difficult, though much facilitated by the adoption of the Trendelenburg posture. A good recovery followed, though convalescence was retarded by the necessity of draining an abscess associated with the old rectal trouble.

**Malignant ovarian tumours** are doubtless more common than one would suppose by microscopical appearances only; and Kelly[1] considers it desirable to regard all ovarian tumours as malignant until removed and proved otherwise. Rapid growth and the presence of a blood-stained peritoneal fluid, as in the case below, are always suggestive of malignancy.

CASE 21.—**Columnar Epithelioma of Ovary—Ovariectomy.**—The patient had been in ill health with slight abdominal pain for five months. Seven weeks before I saw her a tumour was discovered in the abdomen reaching as high as the umbilicus, and had rapidly increased. There was no loss of flesh. The temperature had varied between 99° and 100°. Menstruation was regular. The patient presented a healthy appearance. The abdomen was occupied by a large tumour producing a greater prominence on the right side than the left. The tumour had

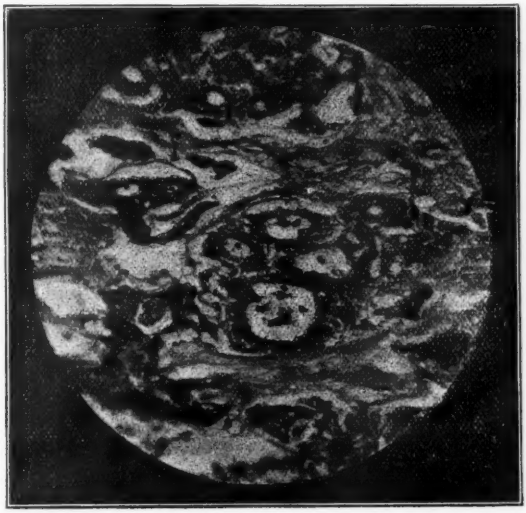

FIG. 1.—*Columnar-celled Epithelioma of Ovary.*

the usual characteristics of an ovarian neoplasm, was fairly smooth, movable, semi-fluctuating, and reached a point half-way between the umbilicus and the ensiform cartilage. There were signs of fluid in the right chest. A six-inch incision was made in the mid-line reaching from two inches above the umbilicus nearly to the pubes. On opening the peritoneum a good deal of blood-stained fluid escaped. A soft, whitish-grey tumour presented and was delivered through the incision, and removed after tying the pedicle. The abdomen was closed without

[1] Kelly's *Operative Gynecology*, vol. ii., 1898, p. 248.

drainage, and the patient did well as far as the operation was concerned, but succumbed later to a secondary deposit which produced intestinal obstruction. The tumour removed weighed nearly eight pounds. On cutting into it, it was found to be vascular, reddish-grey in colour, and of the consistence of brain-matter. In one part was a degenerated yellowish mass half as large as a cocoa-nut, and containing about two ounces of yellowish fluid. A portion of the tumour was sent to the Clinical Research Association, which reported that "the tumour is a very soft and rapidly growing carcinoma of the ovary of the tubular columnar-celled class." This is well seen in the photo-micrograph (Fig. 1) kindly prepared for me by Mr. James Taylor.

**Salpingo-oöphorectomy for small cystic ovaries** associated with dysmenorrhœa is not an operation which can be considered justifiable except in occasional cases, and for epilepsy it may be discarded as useless. Dysmenorrhœa is a symptom dependent upon many various conditions, and it by no means follows that the patient—who is frequently of the neurotic type—is really benefited by the removal of the ovaries; for though menstruation may cease, other nervous phenomena may be substituted for the dysmenorrhœa. It is not surprising, therefore, that the results of these operations have not been satisfactory. An incomplete but highly acceptable relief was afforded in Case 17, upon whom I performed salpingo-oöphorectomy, after watching the case for many months and satisfying myself that the enlarged cystic ovary was associated with such intense pain during menstruation that the patient, who had suffered from epilepsy since puberty, dreaded the coming-on of the "periods."

*B.*—**Operations for Myo-fibroma of the Uterus.**—Cases 19, 31, 35, 43, 49.

There is no longer any need to urge the advantages of intra-peritoneal over extra-peritoneal treatment of the stump in hystero-myomectomy. The tendency of more recent discussions has turned rather towards the relative merits of retro-peritoneal hystero-myomectomy and pan-hystero-myomectomy. In the presence of the association with malignant disease, nothing short of the removal of the whole uterus and tumour would be desirable; but in ordinary uncomplicated cases of hystero-myomectomy there is no *primâ facie* reason for the removal of any more of the uterus and tumour than is included in the supra-vaginal operation of retro-peritoneal hystero-myomectomy.

But though we may regard the last-mentioned operation as

the method of election, it would be foolish to insist on a slavish adherence to it under all circumstances. In Case 49, for example, the tumour, which weighed five pounds, grew entirely from the right side of the uterus—the uterus being represented by a canal about one and a half inches in diameter on the left side of the tumour—and the lower end was so large and globular that a retro-peritoneal hystero-myomectomy would have left a very large stump to cover in, and I, therefore, deemed it best to perform pan-hystero-myomectomy.

There is no great difficulty in the "complete" operation. The preliminary steps are the same as those undertaken for retro-peritoneal hystero-myomectomy, which I described in a former paper.[1] After the uterine and ovarian vessels have been tied, a circular incision is made in the top of the vagina around the tumour, which is then removed entire. The vagina is closed, and the flaps of peritoneum which have been peeled off the back and front of the tumour are sewn together over it. The adoption of the Trendelenburg posture greatly facilitates the necessary manipulations.

The presence of a large myomatous uterus generally prevents conception or produces abortion. Operative interference for myo-fibromata associated with pregnancy should only be undertaken if it seems probable that the tumour will prevent the delivery of the child at full term. In the following case, which is interesting because of the difficulty in diagnosis, the existence of a calcareous fibroid, low down at the side of the uterus, would probably have impeded labour, though a normal pregnancy was not diagnosed till after operation.

Case 19.—The patient had had seven children—two being stillborn at full time. Nine months before I saw her a tumour was noticed on the right side of the abdomen. At that time she was seven months pregnant, and the child was born two months later. After the birth of the child the tumour steadily increased in size. Menstruation recurred three months after parturition, and was profuse. Amenorrhœa had existed for four months; but the patient did not think she was pregnant. There was a more or less globular tumour in the mid-line of the abdomen reaching nearly to the umbilicus. On the right of this, in the pelvis, but reaching nearly to the right anterior superior spine, was a very hard globular mass (calcareous fibroid) larger than the closed fist.

[1] *Bristol M.-Chir. J.*, 1900, xviii. 110.

The os uteri was patulous, but not soft; the uterus appeared to be enlarged, and moved with the abdominal tumour. There was milk in the breasts. A skiagram gave negative results. A diagnosis was made of uterine myo-fibroma, possibly associated with an extra-uterine fœtation. A retro-peritoneal hystero-myomectomy was performed in the usual way. The myo-fibroma was calcareous throughout, and the uterus contained a fœtus in normal position. The patient made a good recovery.

*C.*—**Operation for Tubercular Peritonitis.**—CASE 16.

The beneficial effect of operation on cases of chronic tubercular peritonitis is insufficiently appreciated. More females are operated upon than males, owing to a repetition of the initial error of Sir Spencer Wells in mistaking such a case for one of ovarian cyst; and such mistakes almost always turn out satisfactorily for the patient. It is unfortunate, from this point of view, that there is no disease in males similar to an ovarian cyst, for the good results of cœliotomy for tubercular peritonitis might then occasionally be seen in men. As matters stand at present, a large number of females are cured by operation; whereas the males are more often seen in the *post-mortem* room, without having had the chance of relief which the operation affords.[1]

The **diagnosis** between ovarian cyst and tubercular peritonitis is effected by observing the irregular relation of the areas of resonance and dulness (*e.g.* resonance over the pubes is common in tubercular peritonitis, and rare in ovarian cyst), the presence of fever, and the rapid accumulation of the fluid. All these were present in the case reported below.

Only the chronic forms are suitable for operation; and, speaking generally, the greater the amount of fluid (as in the ascitic variety) the greater the probability of cure. The operation is of the simplest possible character in many cases. The peritoneum is opened by incision, the fluid removed, and the wound then closed. No drainage is necessary, and flushing with antiseptics is superfluous. Treatment by aspiration is dangerous, because of the frequency of the existence of adherent intestines, and it is not so successful as cœliotomy.

It is scarcely needful to state that no operation should be undertaken if the tubercular peritonitis forms only a part of a

[1] Watson Cheyne's *Treatment of Tuberculous Diseases*, 1900, p. 54.

general tuberculosis. Many theories have been advanced to explain the successful results of cœliotomy for this condition, but none of them is entirely satisfactory.

CASE 16.—**Tubercular Peritonitis—Cœliotomy.**—A period of ill health was followed, about six weeks before the patient came under observation, by pain in the left side of the abdomen, and a gradually increasing abdominal fulness especially marked for the past fortnight. There was much emaciation, the patient weighing only a little over five stone. The lower abdomen was tense and prominent, and gave an indistinct sensation of fluctuation and thrill as high as two inches above the umbilicus. There was resonance above the pubes and in various parts over the front of the swelling. Signs of free fluid were shown by the alteration of dulness in the flanks from alteration of posture. The temperature was 101°. On opening the abdomen between the umbilicus and pubes, a large quantity of yellowish fluid (sp. gr. 1020, neutral) escaped. The intestines were much congested, and the parietal peritoneum was of a deep red colour. The surface of the intestine, uterus, etc., and the parietal peritoneum was very rough from innumerable deposits of miliary tubercle as far as the finger could reach. The intestines were matted together above and to the left, forming a sort of cavity by which the fluid was largely contained in the right iliac fossa, though the general peritoneal cavity was not entirely shut off. The abdominal cavity was sponged out to remove the remainder of the fluid, and the wound closed without flushing or drainage. Recovery was rapid, and six months after operation the patient weighed nearly seven stone, and was "better in health than she had been for a long time."

### *D.*—**Hepatopexy for the Ascites of Cirrhosis.**—CASE 6.

The bad results of paracentesis in cases of cirrhosis of the liver led Dr. Drummond and Mr. Rutherford Morison[1] to adopt the artificial production of adhesions with a view to relieving the portal circulation in these cases. Some time since[2] I epitomised the more recent views of Dr. Rolleston and Mr. Turner on this subject. It would appear to be important that operation should be undertaken earlier than heretofore, partly because patients with cirrhosis are prone to peritonitis after operation—and this was the cause of death in the case narrated below—and partly because the liver tissue is not likely to undergo a compensatory hyperplasia as a result of the improved blood-supply, unless operation is undertaken before marked degenerative changes have occurred. It must, however, be confessed that the success which has attended this operation

[1] *Brit. M. J.*, 1896, ii. 728.
[2] *Bristol M.-Chir. J.*, 1900, xviii. 39.

so far leaves a good deal to be desired. The procedure is explained in the following case:—

CASE 6.—**Morison's Operation for the Ascites of Cirrhosis.**—The patient had been tapped many times over a long period, and as much as thirty pints and twelve pints respectively had been drawn off at the last two tappings within a fortnight of the operation. A vertical incision three inches long was made in the right semi-lunar line, commencing just below the costal margin. About twenty pints of ascitic fluid escaped on opening the peritoneum. The abdominal cavity was then dried with sponges. The antero-superior surface of both lobes of the liver and the under surface of the diaphragm were then lightly scraped with a Volkmann's spoon. The omentum was looped up between the diaphragm and liver, and a catgut ligature was passed through the edge of the liver, the omentum and the cut parietal peritoneum to keep these structures in apposition. The parietal wound was closed without drainage. Strips of plaster were fixed firmly across the body from just below the nipples to the pelvic brim, in order to keep the parietes in contact with the liver and favour adhesions. The patient had hæmatemesis on the evening of operation, and died of shock and peritonitis three days afterwards.

*E.*—**Operations upon the Gall-bladder.**—CASES 22, 45, and 50.

I have so recently dealt with the whole subject of the surgery of the liver, gall-bladder, and biliary passages,[1] and with questions relating to the diagnosis of enlargements of the gall-bladder and the technique of cholecystotomy,[2] that I need not dwell upon these matters in this paper. There are, however, one or two points that are worth reflection. In the first place, it is not sufficiently widely recognised that the dangers of a **distended gall-bladder** are great enough to make it desirable to operate upon all cases of enlarged gall-bladder—unless obviously due to malignant disease—whether there be jaundice or not, and whether there be pain or not. In the next place, it is impossible in many cases of jaundice associated with enlarged gall-bladder to be certain of the diagnosis, and an exploratory operation should be undertaken under such circumstances much more frequently than has been done in the past. Gallstones commonly cause so much inflammatory thickening in the walls of the gall-bladder, and so many surrounding adhesions from local peritonitis, that jaundice produced by cholelithiasis is frequently associated with a contracted gall-bladder. On the other hand, jaundice produced by malignant disease leads to a rapid distension of the gall-bladder with bile before adhesions have time

[1] *Practitioner*, 1900, lxv. 535. [2] *Brit. M. J.*, 1900, i. 1329.

to form, and is therefore usually associated with an enlarged gall-bladder. There are, however, many exceptions to this general statement, and hence the desirability of the exploratory operation which has been referred to. Case 22 is to the point. The patient was deeply and persistently jaundiced, the gall-bladder was greatly distended, and the patient had lost four stone four pounds in weight. Such a condition might easily have been mistaken for malignant disease, but by operation I removed nine and a-half ounces of bile-stained fluid and forty-six gallstones, and the patient made a good recovery.

Case 45 presented no unusual features. I performed cholecystotomy, and removed sixty-two fragments of calculi—one stone being three-quarters of an inch in diameter.

(*To be continued*).

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## TWO CASES OF SARCOMA OF THE INTESTINE, WITH SECONDARY INFECTION IN ONE BY A GAS-FORMING BACILLUS.

BY

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Sarcoma of the intestines is of sufficient rarity to justify the publication of any case that may occur, and one of the following cases possesses features of some interest not directly dependent upon the presence of the growth.

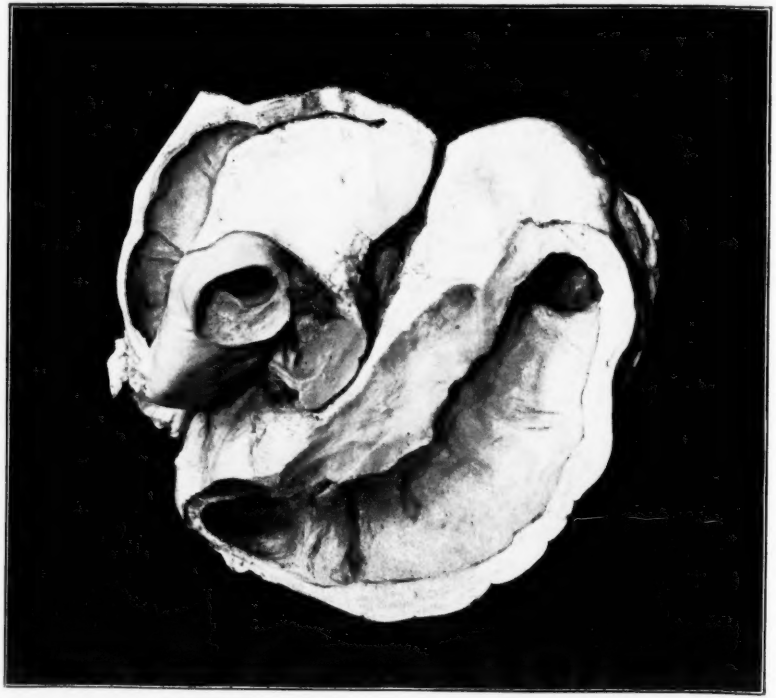
Two cases of this disease occurred in the Bristol Royal Infirmary in the year 1898. The following are abstracts from the notes:—

A boy, aged 5 years, was admitted, under the care of Dr. Prowse, May 14th, 1898. About three weeks before admission swelling of the abdomen had been noticed by his mother. On admission the boy was rather thin. The abdomen was very distended, and mainly occupying the right half a hard mass with irregular surface could be felt. No signs

of free peritoneal fluid were present. There was no tenderness and no complaint of abdominal pain. The motions were loose and rather offensive. The physical signs of the lungs and heart presented nothing noteworthy. On May 25th the notes state that the boy had wasted considerably since his admission. He had lost one and a half pounds in weight. The abdomen, however, had much increased in size, and measured two inches more in girth. The diarrhœa had continued. The bowels had been opened five or six times a day. The temperature, which was 99·6° on admission, had generally oscillated between that point and the normal. On May 27th abdominal section was performed, and the abdominal mass found to be a growth. He died the following day. At the autopsy the boy was seen to be very emaciated, with greatly distended abdomen. No superficial lymphatic glands were enlarged. On opening the abdomen, a large mass of growth the size of a child's head was exposed, which was found to involve the lower portion of the ileum, about twenty inches of its length immediately above the ileo-cæcal valve being affected. The growth had caused enormous enlargement of the affected coils, which approached in size the large intestine of an adult. Section into the mass shewed that the growth had caused no obstruction of the lumen; on the contrary, the lumen was for the most part increased in diameter. Where the growth involved one side of the intestine, it projected into the interior, but at no spot sufficiently to obstruct the lumen; on the other hand, where the growth extensively infiltrated the whole circumference of the intestine, the lumen was greatly widened and measured nearly two inches across. At the margin of the growth, invasion of both the submucous and subperitoneal coats occurred in about equal degree. Deep ulceration was present over a small area the size of a two-shilling piece, which had nearly perforated into the peritoneal cavity. Elsewhere the surface of the growth was free from ulceration. The lymphatic glands of the mesentery were only slightly enlarged by secondary growth. The surface of the liver was covered with small white subperitoneal growths, but the interior of the liver was unaffected. Small growths, however, varying from the size of a pin's head to a small marble, were scattered through both kidneys. An interesting feature was extensive infiltration with growth of the subperitoneal tissues of the abdominal wall in contact with the tumour. The growth extended into the pelvis; but the bladder and rectum remained unaffected. The diaphragm immediately to the right of the falciform ligament was extensively infiltrated, and measured at one spot three-eighths of an inch in thickness. Growth extended upwards from this point to the upper part of the anterior mediastinum, the lymphatic glands of which were extensively involved. The pleuræ and lungs were unaffected, but the bronchial glands were enlarged by secondary growths. The right half of the anterior surface of the fibrous pericardium was infiltrated, and several small nodules were scattered beneath the serous pericardium covering the anterior surface of the right ventricle. Microscopical sections showed the growth to be a lympho-sarcoma with scanty reticulum.

In the following case the growth was in the cæcum:—

A man aged 28, an engine-driver, was admitted into the Bristol Royal Infirmary, under the care of Dr. James Swain, November 14th, 1898. Three weeks previously he had noticed a mass in the right iliac region the size of a duck's egg. Severe abdominal pain followed a week later. Shortly after swelling of the gums occurred, from which slight bleeding took place. On admission the patient, a powerful man, was distinctly ill. The skin was of yellowish tint, and scattered over the neck, arms, and



CASE 1. *Sarcoma of the Ileum.*

The greater part of the specimen shows the intestine infiltrated with growth. The small portion of unaffected ileum shows a smaller lumen than that of the coil invaded by growth. At one point the growth appears to be obstructing the lumen, but such was not really the case; the intestinal wall there has not been sufficiently infiltrated on one side to prevent it collapsing.

smaller lumen than that of the coil invaded by growth. At one point the growth appears to be obstructing the lumen, but such was not really the case; the intestinal wall there has not been sufficiently infiltrated on one side to prevent it collapsing.

CASE 2. *Sarcoma of the Cæcum.*

The cæcum has been cut vertically, and the anterior half, which is represented, is seen from behind. The termination of the ileum is below, and above it is the thickened ileo-cæcal valve. The growth is spongy in appearance, owing to the presence of small gaseous cavities.

front of the chest and abdomen was a fine purpuric rash. A hard, rounded, immovable mass could be felt in the right iliac region, extending as high as the iliac crest and inwards to within an inch of the middle line. The bowels had not been constipated, and during the few days he was in the Infirmary they were opened once or twice a day. Examination of the blood showed no leucocytosis or poikilocytosis. The hæmoglobin was 50 per cent. On November 16th bleeding from the nose occurred, which was only partially arrested by plugging. The temperature was 101·6° on the night of admission, 102° the following day, and reached 104·4° on the 17th, the morning of death. It only once descended below 100° Abstract of autopsy: Although the *post-mortem* examination was made in the month of November, and only twelve hours after death, the subcutaneous tissues were much distended with gas. This was very marked in the neck and scrotum. The abdomen was also enormously distended, and much gas escaped when an incision into it was made. The intestines also were much distended. Only a few ounces of peritoneal fluid were present. In the right iliac fossa was a hard mass about the size of two fists, involving the cæcum. It was of creamy white colour, and showed no sign of hemorrhage. The growth, where not surrounded by peritoneum, was easily separated from the underlying structures. A section of the tumour showed that it affected the whole circumference of the cæcum, but was of much greater thickness on one side than on the other, the wall on the inner aspect being ten or twelve times the diameter of the outer wall. The muscular coat could be traced some distance into the tumour, and from its situation it could be seen that on the outer side the growth lay mainly in the subperitoneal tissues, but on the inner side in the submucous coat. The peritoneum covering the mass was smooth, and showed no trace of peritonitis. The growth extended upwards towards the descending colon for about five inches from the ileo-cæcal valve, and ended somewhat abruptly. It infiltrated the ileum also, but in much slighter degree, for rather more than two inches of its length. The ileo-cæcal valve was considerably thickened, but there was no obstruction of the ileo-cæcal orifice. There was no ulceration of the mucous membrane. A curious feature of the section of the growth was the presence of gaseous cysts, for the most part small but varying in size, and scattered so thickly as to give the growth the appearance of a sponge. A few small subperitoneal growths were present in the mesentery, but the mesenteric lymphatic glands were not affected. There were no secondary growths present elsewhere in the body. There were no subserous petechiæ either in the pleuræ or peritoneum, but one small hemorrhage was present under the visceral pericardium. The spleen, which was greatly enlarged and weighed 21 oz., was so full of gaseous cysts that it floated in water. The liver showed patches of small cysts scattered here and there, and the kidneys were slightly affected. No other organs, however, contained cysts which attracted attention, and in the brain they were carefully searched for.

Aërobic cultures were taken by Dr. Symes, which proved sterile. Unfortunately, no anaërobic cultures were taken. Microscopical examination showed the growth to be a lympho-sarcoma, with more abundant reticulum than in the former specimen. Around the cysts the cells were closely packed together, showing that the cavities had been formed by some central distending force. I did not detect any micro-organisms in sections stained with methylene blue; but one rather faintly stained with methyl-violet showed many bacilli, especially amongst the sarcoma cells around the cystic cavities. The bacilli were often arranged in pairs, and around every bacillus was a clear space, which was apparently an unstained capsule.

A paper by Dr. Libman, dealing comprehensively with the subject of sarcoma of the small intestine, has recently appeared.[1] Four cases which have come under his own observation are recorded, and at the end of the paper three other cases are mentioned as having occurred recently in New York—two of them at the hospital with which Dr. Libman is connected. This experience is very exceptional, as the statistics of pathologists quoted by Dr. Libman show. At Berlin during sixteen years no case occurred. Elsewhere, although very uncommon, the disease has not been quite so rare. At Prague, in thirteen thousand and thirty-six autopsies, thirteen cases of sarcoma of the intestine occurred, and in Vienna during twelve years twelve cases were met with. Dr. Libman refers to the probably infectious nature of lympho-sarcomata, and suggests that the disease may be endemic in New York. It may be more than a coincidence that the two cases that occurred at the Bristol Royal Infirmary should have occurred in the same year. It will be convenient here to refer to a feature in the morbid anatomy of these growths, which supports the view that they owe their existence to some infection. Secondary growths almost invariably occur by local extension, and when not continuous with the primary growth, the structure affected has been in contact with it. Thus in the first case recorded above, where the mass of primary growth had been in contact with the brim of the pelvis, the peritoneum had become extensively affected. Higher up, the peritoneum of the abdominal wall, where in contact with the tumour, had become infected, and from there the growth had spread to the diaphragm, mediastinum, and pericardium. The visceral pericardium, where in contact with growth in the parietal pericardium, had also become infected. This feature was well marked in Dr. Libman's cases. He says: "A careful examination of the specimens showed that the growth extended almost entirely by continuity, or by contact." Before leaving this subject, it must be mentioned also that Flexner has described small bodies seen in microscopical sections of a sarcoma of the intestine, which were thought by him to be

[1] *Am. J. M. Sc.*, 1900, cxx. 309.

protozoa; but in light of the observations and experiments of others are as likely to have been cells of some form of yeast[1]

Sarcoma of the intestine may occur at any age, but is rather more common between thirty and fifty than before and after those ages. It is more common in males: of forty-nine cases, thirty-five were in males, fourteen in females. The most frequent variety of growth is lympho-sarcoma; but the tumour may be a small-celled, spindle-celled, or mixed-celled sarcoma, and more rarely a myo-sarcoma or melano-sarcoma. The way in which metastasis occurs has already been referred to. Such metastasis, however, though usually present, may be absent. A somewhat distinctive feature of the growth in the intestine is its tendency to dilate rather than obstruct the lumen; this is mentioned by Wilks and Moxon,[2] and Libman quotes Baltzer and others as having noticed the same feature. At one spot, in our first case, the lumen was much dilated. In passing, it may be mentioned that Dr. Libman's explanation of this dilatation of the intestine does not seem to be altogether satisfactory. He attributes the enlargement of the lumen to weakening of the intestinal wall, resulting from destruction of the muscularis mucosæ by the growth. It may be instructive to consider, in this connection, points of difference between carcinoma and sarcoma of the intestine. A carcinoma causes obstruction in two ways: firstly, arising from the innermost layer of the intestine, the abundant proliferation of the cells of this epithelial structure may, in rapidly-growing examples, give rise to a tumour which projects inwards and obstructs the lumen; and secondly, in more chronic cases contraction of the fibrous stroma of the growth produces a stricture of the intestine. Sarcoma, on the other hand, originating commonly in the submucous layer, tends to grow more laterally than internally or externally. Being devoid also of the contracting qualities of a carcinoma, when once the whole circumference of the intestine has become involved, increase of growth will produce a widening of the ring of affected intestine and increase of the diameter of the lumen.

[1] *Johns Hopkins Hosp. Rep.*, 1894, iii. 153.

[2] *Pathological Anatomy*, 3rd Ed., 1889, p. 435.

There is nothing characteristic in the clinical features of sarcoma of the intestines. Abdominal pain is common, and the abdomen becomes distended, either by the size of the growth or by associated peritoneal effusion or tympanites. According to Baltzer, the duration of the disease is from two weeks to one and three-quarter years. It is worthy of mention that cases have simulated appendicitis, and one of Dr. Libman's cases was admitted with that diagnosis. In the second of the cases reported above, Dr. James Swain, under whose care the case was, has told me that at first the probability of the tumour and temperature being the result of appendicitis was carefully considered. This case presented other features of interest. During life the hemorrhages associated with a high temperature pointed to some secondary infection. A case curiously similar is recorded by Hilton Fagge.[1] A man, aged 25, admitted into Guy's Hospital with a history of a few weeks' illness, had a high temperature, developed a purpuric rash, and later lost a considerable quantity of blood from the stomach. Five days before death swelling of the face and scrotum appeared, which after death proved to be due to gaseous distension of the subcutaneous tissues. Small sarcomatous growths were present in the kidneys, but the primary growth appeared to have been at the junction of the ileum and cæcum; "the last two inches of the ileum, including the ileo-cæcal valve, were greatly thickened, forming a massive tumour." In the situation of the tumour, the presence of a purpuric rash and of subcutaneous emphysema, the case bears a remarkable resemblance to the above-mentioned case. In one rather interesting detail it differs. Apparently the swelling of the face and scrotum, due to gaseous distension of the subcutaneous tissues, commenced some days before death.

Emphysema of this nature appears to be generally due to the bacillus aerogenes capsulatus. Encapsuled bacilli were present in our case, and we shall probably be right in concluding that the bacillus was the cause of the gaseous cysts present in the tumour and elsewhere. Another point that suggests itself is the possibility of this gas-forming bacillus having been

[1] *Guy's Hosp. Rep.*, 1881, xxv. 1.

the cause, not only of the presence of gas, but of the purpuric rash and associated elevation of temperature. A case is recorded by Hamilton and Yates,[1] where a young man, aged 22, was attacked with a purpuric rash eleven days before death. The temperature became raised, and he lost large quantities of blood from his nose, mouth, and throat. At the autopsy the abdominal organs were emphysematous. The bacillus aërogenes capsulatus was found, but the staphylococcus pyogenes aureus was also present. Most observers doubt whether the bacillus aërogenes capsulatus frequently enters the circulation long before death, or, if it should do so, that it possesses much pathogenic power unless mixed with other micro-organisms. The possibility of gas-forming bacilli entering the blood many days before death has been made clear to my mind by a case I am hardly at liberty to mention. The importance of the presence of other micro-organisms is a somewhat different question. In the above case aërobic cultures proved sterile, and one might argue from that circumstance that the bacillus aërogenes capsulatus was the only micro-organism present. It is difficult, however, to lay stress upon a negative observation, and the experience of others would lead us to believe that probably a mixed infection was present.

In conclusion, it should be stated that other cases have been recorded by Fagge, and by Martin and Hamilton[2], which show that purpura may be associated with sarcomatous growths. The new growth may in some measure be directly responsible for the hemorrhage, but it seems more probable that it acts indirectly, by producing a way of entrance for infection, and also by lowering the resistance of the body to that infection and its consequences.

[1] *Montreal M. J.*, 1897, xxvi. 117.

[2] *J. Exper. M.*, 1896, i. 595.

# ON THE QUESTION OF THE ADVISABILITY OF LIGATURING THE JUGULAR VEIN IN THE TREATMENT OF SIGMOID-SINUS THROMBOSIS.

BY

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Many cases of thrombosis of the sigmoid sinus, secondary to inflammation of the middle ear, have been successfully treated without ligature of the internal jugular vein. Some cases, indeed, have terminated favourably although neither the sinus itself nor the jugular vein have been directly treated. I have myself, in the practice of other surgeons, seen one case in which pyæmic abscesses formed in the sterno-clavicular joint and over the olecranon, and another in which there were signs and symptoms of lung implication secondary to otitis media, and yet these cases recovered after antrectomy alone, the sinuses and jugular veins not being touched. In both of them there is great probability that the sinuses were at least partially thrombosed, and that if they had been obliterated by operation early in the course of the disease, with or without ligature of the jugular vein, the pyæmic developments might have been prevented; but obviously these procedures were not necessary to save life.[1] The cases are mentioned, not to show that antrectomy alone is ever the proper treatment in suspected cases of sinus thrombosis, but rather to show that, though recovery ensued, the treatment adopted was hazardous. In many cases of this disease, however, the thrombosed sinuses have been cleared of their septic contents without the corresponding jugular veins being ligatured, and yet the subsequent course of the cases has apparently been as satisfactory and as free from hazard as in other cases where the sinus and vein have both been dealt with.

[1] These cases may have been examples of aural pyæmia without sinus thrombosis — a form of pyæmia which is sometimes, though rarely met with.

The routine treatment adopted by many surgeons in cases where thrombosis of the sigmoid sinus is suspected to exist is: firstly, to expose and disinfect the mastoid antrum and cells, and the tympanum; then to expose the sinus and settle the question as to whether it is or is not thrombosed; then, if the sinus is thrombosed, to expose the jugular vein and obliterate its channel, either by ligaturing the vein in continuity, or by dividing it after doubly ligaturing, or by excising it from near its origin at the base of the skull to near its termination in the subclavian vein close to the clavicle; and finally to freely lay open the thrombosed sinus and remove the thrombus, and thoroughly disinfect the vessel. If the jugular vein has to be exposed, it would in most cases be the best to make that the first step in the operation, as the neck wound would then have a better chance of escaping infection from contaminated hands or instruments. In some cases, however, the upper part of the jugular vein will be surrounded by tissue already infected, and in such cases there would be no great advantage in making the ligature of the vein the first step in the operation. But the diagnosis of thrombosis of the sigmoid sinus in the early stages, when operation is most likely to be beneficial, is usually problematical, and the sinus should be exposed before the vein is ligatured lest the diagnosis prove incorrect. In any cases, however, in which the ligature is used, it should be applied before the thrombotic material which the sinus contains is disturbed, for obvious reasons. The excision or division of the internal jugular vein bars at once the path by which septic emboli, breaking away from a disintegrating clot in the sigmoid sinus, most readily pass to the lungs and other organs, though it does not bar the only path by which such emboli travel, for it leaves open in many cases the anterior and posterior condylar and stylo-mastoid veins, and also the lateral sinus itself may convey the particles in its reversed current to the opposite jugular vein. If the jugular vein itself has become infected, and contains disintegrating thrombus, the wisdom of applying a ligature below the thrombus admits of no question. But the fact that many cases of sinus-thrombosis have recovered satisfactorily without ligature of the vein raises the practical

question—Are there any signs or symptoms by which the surgeon called upon to treat these cases can decide, either when operating or before, whether it is safe or unsafe to leave the jugular vein untouched? From the pathological point of view it is obvious that nothing will be gained by ligaturing the jugular—firstly, if every particle of septic thrombotic material likely to pass from the sinus to the vein has been or can be removed through an opening made into the sinus itself; and secondly, if the lumen of the jugular vein is blocked by firm clots, which can act like a ligature, if that clot can be saved from disintegration by removing the septic material lying in the sinus above it as just described.

This question of the advisability of tying the jugular as a routine step in the treatment of sigmoid-sinus thrombosis can only be settled by a careful study of recorded cases. It is a very important question to settle, for the operation of antrectomy and mastoidectomy, coupled with that necessary to expose and obliterate the sigmoid sinus, is often sufficiently long to tax severely the patient's vital powers without the addition of another operation on the neck. Moreover, it is surgically unsound to perform any operation that does not offer advantages to the patient commensurate with the risks from the shock, hemorrhage, anæsthesia, and chances of septic infection which may attend the operation. Unfortunately it will always be in the cases of sinus thrombosis of the severest type and the longest standing, those in which the patient is least able to bear a prolonged operation, that ligature of the jugular vein will be most essential for successful treatment. It is with the object of adding a fractional contribution to the data for the study of this important question that I record the following case:—

J. W., a male, aged 26, was admitted to the Bristol General Hospital on June 4th, 1900, and gave the following history. Six weeks before his present illness began he had discharge from his right ear, lasting for about a fortnight. There had been no pain or vomiting with this. A period of three or four weeks followed, during which he had no otorrhœa and felt quite well. On two previous occasions he had had ear discharge. Six days before admission, his present illness set in with malaise, vomiting, and a throbbing pain in the right ear, temples, and forehead. These symptoms had gradually become more severe, and he had had four shivering fits, the last occurring in the hospital and his

temperature with it rising to 103°. The other shivering attacks were on the the first, second, and third days of his illness. He had become very prostrate. Vomiting did not recur in the hospital. I saw him first on June 5th. There was a tender gland palpable just below the apex of the mastoid process on the right side, of elongated shape, and not larger than a cherry-stone. No tenderness or cord-like thickening was found along the course of the jugular vein. The median frontal vein, and some veins over the base of the mastoid, were rather full, but none of them felt cord-like, and nothing abnormal could be felt in the sub-occipital triangle. There was no mastoid tenderness whatever, and no ear discharge. A watch could only be heard in contact on the affected side, but on the other side could be heard well from a considerable distance. His intelligence was normal. The eyes were normal in all respects. After well syringing the right ear, and washing away a black mass and whitish flakes, the speculum showed nothing recognizable as tympanic membrane. The ossicles could not be seen. Some rhonchi were heard in the chest and a faint systolic apical heart bruit. The pulse was 98. The headache was said to be very severe, and obviously the patient was very prostrate.

*Operation.*—This was performed on the seventh day of illness, and about two hours after I first saw the patient. A curved incision was made half an inch behind the insertion of the pinna, and the mastoid antrum opened with hand-gouges. The bone was hard and the antral cavity deep, so that a long time was taken in exposing it. Minute beads of pus were twice seen before the antrum was reached, but nothing came from that cavity until a small spoon was introduced, which brought away offensive caseous-looking material. After well scraping out the antrum, and the tympanum also, and syringing through several times, these two cavities were plugged with iodoform gauze. A horizontal incision was carried backwards, and a disc of bone removed over the sigmoid sinus an inch behind the meatus. Watery flocculent pus immediately escaped from an extra-dural collection lying in the sigmoid groove and over the posterior surface of the petrous bone. The sinus was swollen and yellowish in colour, the outer wall looking sloughy. It was further exposed in both directions with bone forceps and then laid open along the whole length exposed, and was found to contain blood-clot, which was dark coloured externally, but greyish in its central part, where it appeared to be disintegrating. The clot was removed with a sharp spoon. It cannot have been more than one and a half inches long, as shown by the short distance it was necessary to pass the spoon to excite free bleeding in both the jugular and torcular directions. The hemorrhage was easily stopped by plugging the sinus and wound with iodoform gauze. The temperature on the following day was normal. The plugs were changed in 48 hours and hemorrhage occurred during their removal, which was again easily arrested. Then for eight or nine days good progress was made, the patient gaining strength rapidly and feeling well. Then a swelling gradually formed under the uppermost part of the sterno-mastoid muscle, projecting forward towards the angle of the jaw, and coincidently the temperature became again elevated. The skin at this time had become eczematous around the wound. A week later the temperature again became normal, and the swelling quickly subsided. As it subsided there was very free discharge of pus from the opening in the skull, and pressure on the swelling was several times observed to cause an escape of pus from that opening. It is obvious, therefore, that the swelling was due to a collection of pus which communicated with the cranial cavity, probably through an aperture the result of

caries of the mastoid process on its deep surface, or of caries very near that process. It seemed, in fact, an abscess of the type described by Bezold, and it is remarkable that it healed up so quickly and satisfactorily without further operative treatment. From this time the progress of the patient was uneventful. I last saw him in October. The wound behind the pinna was soundly healed, and there was no ear discharge, and fair hearing on the affected side.

The successful issue of this case was no doubt due to the thorough removal of the septic thrombus in the sinus, and to the obliteration of the sinus with the gauze plugs preventing the further circulation of blood through the contaminated portion.

The effective removal of the thrombus through an incision in the sinus wall was easy, because the operation was performed before the sinus became extensively involved.

As bearing upon the question of ligature of the jugular, reference may be made to the following cases which have been recorded recently: A. R. Baker[1] opened a thrombosed sinus and curetted upwards and downwards until there was a free flow of blood each way, and tamponed with iodoform gauze. Uncomplicated recovery followed. Arthur Cheatle,[2] in treating a case, made the sinus bleed from the torcular, but not from the jugular, end. The clot was firm and dark, except at one infected spot, and for that reason the jugular vein was not tied. There was a rigor one hour after the operation, but after that progress was uninterrupted. Cheatle, commenting upon the case, says: "It seems that if healthy-looking clot can be seen well below the breaking-down area ligation of the vein is not necessary; but in order that such a condition may be found it must be well recognised that *one* rigor demands instant operation." He points out that one rigor does not necessarily mean that there is septic thrombosis of the sinus, and mentions a case of Urban Pritchard's where a severe rigor seemed to be due to suppuration in the antrum alone. But one rigor points strongly to the advisability of examining the sinus. Dundas Grant[3] reports another case. The patient was almost moribund when she arrived at the hospital. She had had repeated shiverings for a fortnight. A quantity of fœtid pus was found to be escaping

[1] *Laryngoscope*, 1900, viii. 68. [2] *Lancet*, 1900, i. 96.
[3] *J. Laryngol.*, 1900, xv. 143.

from a hole in the wall of the sinus. Broken-down clot was scraped from the sinus, but normal-looking blood-clot was found beyond this disintegrating clot in both directions, and this was left in the hope that the original cause of infection having been removed, no further infection would occur, and that the firm clot which had formed would act in the same way as a ligature. M'Kernon[1] of New York has recently recorded seven cases of sigmoid-sinus thrombosis, of which six were successfully treated, in four of which the jugular vein was not tied. All the sinuses in his cases contained pus and breaking-down clot, though in varying quantity. In the four cases in which no ligature was used the sinus was made to bleed from both ends by removing the thrombi. In the two cases in which the jugular vein was excised he appears to have been induced to operate on the vein by the fact that he could not remove clot from the lower end of the sinus and the jugular bulb sufficiently completely to excite free hemorrhage there. Yet in his comment upon treatment at the end of the paper he says: "If, on the other hand, upon opening the sinus, we find a disintegrated clot or pus, or both present, then I believe, without further manipulation above, we should, as rapidly as is consistent with carefulness, expose, ligate at the clavicle, and resect and remove the internal jugular vein of that side, to its commencement at the bulb." Macewen, in his book on *Pyogenic Diseases of the Brain and Spinal Cord*, 1893, p. 311, writes: "In the majority of instances the obliteration of the upper two-thirds of the sigmoid sinus is all that is necessary for the prevention of systemic infection."

It appears to me that a study of the records I have quoted goes far to show that ligature of the jugular vein in sigmoid sinus thrombosis need not, in many cases, be regarded as an essential part of the operation, and that it will usually be better practice not to ligate the vein in cases operated upon before embolic abscesses have formed, if a free flow of blood can be established from both ends of the sinus by removal of the thrombi, or if firm healthy-looking clot is found plugging the sinus at both ends, or at the lower end.

[1] *Laryngoscope*, 1900, viii. 294, 333.

# CRANIOTOMY, WITH THE IMPLANTATION OF EGG-SHELL MEMBRANE, FOR JACKSONIAN EPILEPSY.

BY

WILLIAM JONES GREER, F.R.C.S. Irel.

THE introduction of egg-shell membrane by Freeman,[1] of Denver, for the prevention of adhesions between the brain and its coverings and the scalp appears to offer distinct advantages over the inversion method of Keen, the gold-foil of Beach, or the rubber tissue of Abbe. Freeman claims "that it is . . . easily obtained," that "it is not in the full sense of the term a 'foreign body,' but seems in a measure to incorporate itself with surrounding tissues without causing perceptible irritation or the formation of noticeable cicatricial deposits;" that it will not require a second operation for its removal. In an experiment on a dog, two months after the implantation of the membrane a microscopic section showed that the membrane had been replaced by a layer of adipose tissue permeated by blood-vessels.

The subject of this note was a young married lady, who, some eleven years ago, sustained a compound fracture of the skull, caused by the accidental falling of a roof-tile. She was very seriously ill after the accident, being unconscious for a period, with the frequent development of convulsive seizures. Several pieces of necrosed bone were removed, and the wound, which became septic, required almost two years for complete healing. The fits which were frequent during the first year of her illness became gradually less frequent, and for nearly nine years she was entirely free from them, but she has been a sufferer from severe headaches. Within the recent two years the fits have again appeared, and are gradually increasing in severity and regularity. For this she sought advice. She had gained considerably in general health by treatment, but the convulsive seizures were very little, if at all, controlled. The character of the fits as gleaned from the patient and her friends was, that for a day or two before the attack came on she felt depressed and out of sorts. About ten minutes before the onset she had very distinct muscular twitchings, commencing in the right thumb and gradually passing from group to group of muscles up the arm; the right foot and leg were occasionally similarly affected. The convulsions were always confined to the right side; there was no initial cry, and the attack was always followed by some loss of power in the arm and leg. She was usually unconscious at the height of the attack, and remained so for a variable period. The next day

[1] *Ann. Surg.*, 1898, xxviii. 455.

she habitually felt a very great deal better in health; latterly these seizures have been as frequent as one or two a week. Such was her particular history when I first saw her, about twelve months ago. She was then about twenty-two years of age, somewhat ill-nourished and anæmic. An examination of the various organs did not reveal anything of special interest. The recital of these symptoms, and the account of the accident, naturally attracted one's attention to the head, where a deep depression was to be seen, situated precisely over the upper end of the left fissure of Rolando, covering the upper portions of the ascending parietal and frontal convolutions. This depression was irregular, its longest axis being about two inches, its shortest one inch; its inner margin touched the longitudinal fissure. The bottom of the depression was occupied by a dense devious cicatrix firmly adherent to the structure underneath, the whole cavity being exceedingly tender to the touch. The diagnosis was obviously traumatic epilepsy; its slow development pointed forcibly to the irritation in the motor area being due to a tumour, a cyst, or most likely to the inclusion of brain tissue in the cicatrix. The treatment suggested to the patient was that under the circumstances an operation might possibly be expected to afford relief, it being at the same time explained that while the operation results are not always successful in conditions of the kind, the risk to life was not great, and the cause of the trouble was very apparent and afforded a reasonable hope of removal

On 23rd August, 1900, the head having been shaved and otherwise carefully prepared, I raised a large semilunar flap of scalp downwards from the left motor area. It was so strongly fixed to the stoma in the skull that I had some difficulty to avoid button-holing it. The skull opening was then seen to be filled with hard dense tissue, which was cut away with considerable trouble. During this part of the procedure very furious bleeding occurred, which for the moment caused me to think that I had opened the longitudinal sinus. When the hemorrhage was stopped, the brain could readily be seen pulsating very feebly, dark in appearance, soft and friable to the touch, with numerous fibrous septa coming up to join the removed cicatrix. These septa, with, roughly, two drachms of softened brain matter, were removed, and the cavity dried out. No projecting spiculæ of bone could be detected. After this, about a square inch of egg-shell membrane was placed between the brain and the skull opening; another portion of membrane was placed outside over the opening, and the scalp flap brought into position over it, sutured with silkworm gut, and a sterile dressing applied. The wound had an aseptic after-course, and healed *per primam*.

To sum up the salient features of the case, it presents itself as traumatic epilepsy due to a compound fracture of the skull, and the subsequent formation of dense adhesions between brain, membrane, and scalp. The treatment adopted was, opening of the dura, which, according to Kocher,[1] has a curative effect *per se*, possibly by lowering tension, the removal of the diseased motor area in the manner of Von Bergmann, and the prevention of adhesions by the insertion of egg-membrane as suggested by Freeman.

[1] *Ann. Surg.*, 1900, xxxi. 637.

The more remote history of the case exhibits details of some interest, at the moment of writing, six months after the operation. I have to record that about two months ago, in consequence of a slight injury, the old cicatrix broke down and left a small opening in the scalp, nearly a quarter of an inch in extent, through which could easily be seen the second portion of egg-shell membrane, white and glistening; fearing that, by the time this portion would be surrounded by granulations, the old scar might have entirely given way, as it would have very little vascular support until these granulations carried an abundance of life to it, with fine forceps I removed this second piece of membrane; it came out in its entirety; it was still tough, and stood well the strain of being dragged out, its edges being, apparently, held by granulation tissue. Macroscopically there was no alteration in its structure. Underneath it was a layer of granulations; nothing of the first piece of egg-membrane was to be seen. The small scalp opening soon filled up. Thus the construction of the breach, I take it, is that next to the brain is the first piece of egg-shell membrane, after that dense fibrous tissue, then scalp.

I feel that it was an undoubted mistake to put in a second portion of membrane, and on another occasion I shall be quite satisfied with one patch.

Up to the present, appearances are in favour of a good result; the old cicatrix is not in the least tender. It is supple and freely movable, and there has been no recurrence of the fits.

## SIX CASES OF CEREBRO-SPINAL MENINGITIS.

BY

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THESE cases were all patients in the Royal Infirmary, and I wish to thank the physicians under whose care they were for permission to publish these notes.

The first five were admitted within a few weeks of each other last summer; but as they came, with two exceptions, from widely different districts, they can scarcely be said to constitute an epidemic. Cases 1 and 2 were father and daughter, living in the same house. The latter was the first case. The disease ran a short and mild course, and was not suspected, but there seems to be very little doubt that they were both due to the same micro-organism.

The sixth case occurred in January of this year, and is included as it is the most typical of the series.

CASE 1.—L. F., aged 17, a girl. Admitted, under Dr. Shingleton Smith, on May 5th, 1900; discharged June 14th, recovered. Previous history unimportant. Five days ago patient was attacked with pains in the head, back, and limbs; a few days later she was "raving with pains in her head."

On admission: patient was thin, very deaf, and having headache; heart, lungs and abdomen natural; eyes and fundi natural. May 12th.—Temperature very erratic, between 100° and 103°; since admision complains of pain in back of head and neck; general hyperæsthesia. May 20th.—No physical signs in chest or abdomen have developed; knee-jerks natural; pneumonia can be excluded, and Widal has twice been negative; neck is stiff; temperature quieting down. June 14th.—She has made a slow and steady recovery since the last note, and is going out to-day.

This case was a daughter of A. F. (Case 3), aged 45, who came in a week before she was discharged, and who died of cerebro-spinal meningitis. While at the Infirmary this disease was not suspected, and neither lumbar puncture nor Kernig's sign[1] was investigated.

CASE 2.—H. P., aged 16, a boy. Admitted, under Dr. Shaw, on May 25th, 1900; death on June 19th, 1900. Three weeks ago, while carrying a bar of iron, fell and struck the back of his neck on a wooden block; he did not notice any ill effects of this for two days, then he developed a headache, which continued "on and off" till admission; during this time he remained in bed; two days previous to admission he vomited once. His temperature had been taken since 11th of May, and had been very irregular, ranging from normal to 104°.

On admission: only complains of his headache; well-nourished boy, does not look ill; pulse 80, respiration 22, temperature 101.2°; appetite poor, tongue furred; no herpes labialis, no rash; lungs, heart, and abdomen are natural; eye movements and fundus natural. June 1st.—Spine is tender to movement and percussion from the third to the sixth dorsal, and held very rigid in this region; the head is becoming retracted. June 6th.—Head retracted to a right angle; mentally very clear, and looking very unlike meningitis; knee-jerks have become much more active than on admission; Kernig's symptom well marked; cannot now sit up without support. June 9th.—Lumbar puncture gave serum slightly opalescent; fresh coverslip preparations

[1] Kernig's sign is the inability to extend the patient's leg on the thigh while the thigh is at right angles to the body, and is due to a contraction of the flexor muscles; in a marked case the leg can only be brought as far as a right angle with the thigh.

showed the presence of numerous diplococci, many of them in leucocytes, which stained easily with methylene blue and did not retain their stain when treated by Gram's method; agar tubes and blood agar tubes were stroked with the fluid, and four days later showed a number of small round discrete colonies with the same morphological appearance and staining properties; the headache remained the same after puncture as before (about three drachms were removed). June 12th.—Boy has gradually become weaker and more apathetic, he can just understand enough now to put out his tongue when told to; head is retracted beyond the right angle; spine remains straight; there is no change in the fundus; there has been no herpes or rash of any sort; he is passing everything under him. June 19th.—He died this morning. Yesterday he was fed with a nasal tube. The eyes were wandering independently.

P.M.E.—Basal sero-purulent meningitis. The cord did not appear to be affected.

Case 3.—A. F., aged 45 (father of Case 1). Admitted, under Dr. Shaw, June 9th, 1900. Five years previous to admission he was in the same ward under Dr. Shaw, for headaches, for which no definite cause could be assigned. About a month ago he began to complain of "headache and weakness," and he had to cease work, he felt "very weary." Two weeks ago pain in the head got worse, and he began to "wander"; vomiting started, and with it diarrhœa, and for a week he had been passing everything under him.

On admission: patient lies on his back in a drowsy state, and looks like a bad case of enteric in the fourth week, muttering to himself about his work, and taking no notice of anything; pulse feeble, 124; respiration shallow, 20; temperature 101°. There is nothing noteworthy in the chest or abdomen; eye movements are natural, and so is the fundus on both sides. He is somewhat incoherent, but on commanding his attention he understands what is said, and answers with correct words which are rather difficult to recognise; he continues to pass everything under him; there is no retraction of the head, but he objects to his head being moved; urine drawn off with a catheter contains albumen and a few granular casts. July 4th.—Patient has scarcely changed in any way since admission; he is getting thinner; he still lies semi-conscious and mutters; temperature is very irregular, between normal and 103°, following no definite course; there seems to be a little weakness in the right leg, and it has been slightly œdematous. Kernig's sign is marked, and the flexors of arms are resistant; there are no changes anywhere in sensation; several Widal reactions have been negative. September 4th.—No certain diagnosis has been arrived at. Six times has a lumbar puncture been made, the first was on the 4th of July: the fluid is always clear. In one of these a micro-organism was found, which had grown on an agar slope, and this reacted to stains as the diplococcus intracellularis does, and therefore the case is supposed to be one of very chronic cerebro-spinal meningitis. He is slowly sinking week by week. 10th September he died.

P.M.E. showed basal meningitis in the subarachnoid space, and a few flakes on the surface of the cervical region of the spinal cord.

Case 4.—E. E. R., aged 9, a girl. Admitted, under Dr. Waldo, on June 11th, 1900. On June 10th she went for "too long a walk," and "it was very hot." She vomited when she got home, and next morning refused her breakfast and complained of pains in her legs.

On admission: she looks like a cerebral case; turns about in bed, chatters sense, generally keeps her knees drawn up, and complains of pains in the legs; she has sordes and a furred tongue; her head aches very much, and she complains of great pain in the back of her neck when her head is moved; lungs, heart, and abdomen natural; pulse 100, respiration 36, temperature 100°; eyes—no strabismus, left optic disc shows veins fuller than natural, right not seen. June 15th.—Paralysis of left external rectus; herpes at left angle of the mouth, still conscious, and not worse; complains of pain in the abdomen; Widal negative; no vomiting; Kernig's sign well marked. June 19th.—There is now no strabismus or weakness of the recently paralysed muscle, but she has double optic neuritis; no retraction of the head; still very great headache. June 30th.—Getting weaker, and very thin; incontinence of urine since the 24th, still shrieks occasionally with headache; she had typical Cheyne-Stokes' respiration during sleep for two nights; still counts fingers properly. July 17th.—Has begun to improve, not noisy now; temperature, which has been ranging between 99° and 103° in a very irregular manner, has now rather suddenly become subnormal. For the first three weeks the temperature generally moved through two or three degrees every day, sometimes rising in the evening and at others in the morning; since July 4th it has been steadier, from 100° to 101°, till it fell on the 14th from 101° to 97°. Optic neuritis still present. August 2nd.—A lumbar puncture was made, but it was sterile; Kernig's symptom has disappeared; sits up now. Sept. 2nd.—Walks about, weak still; bright and intelligent and gaining flesh; and going home. Jan. 12th, 1901.—Is quite well.

Case 5.—F. C., aged 7. Admitted, under Dr. Shingleton Smith, on June 15th, 1900. Three weeks ago the child was knocked down by a bicycle, but was not injured in any way; ten days ago, suddenly, convulsions, and ever since "all of a work"; remained "unconscious" till day before admission; sent in as meningitis.

On admission: thin and irritable, looks very ill; keeps chattering coherent nonsense; lies on side or back, and always with knees flexed; no vomiting; seems to have pain in ears and legs, and to be tender everywhere, and hyperæsthetic; there is no strabismus or any paralysis; lungs, heart, and abdomen natural; trace of albumen in urine; knee-jerks increased, no ankle-clonus, plantar reflex flexor type; Kernig's sign well marked, and also rigidity of arm flexors; pupils normal, and react to light, optic disc slightly choked; no optic neuritis; Widal's reaction negative. June 19th.—Lumbar puncture on the 16th, serum opalescent, and a coverslip preparation showed diplococci intra- and extra-cellular, a growth appeared to-day on an agar tube which had been inoculated, this was composed of diplococci which stained with methylene blue, but were decolourised by Gram's method; herpes labialis, which appeared on the 16th, also showed a diplococcus with the same characters; very drowsy, and complaining of pain all over. June 26th.—Lumbar puncture, tube inoculated remained sterile. June 30th.—Nasal feeding; more delirious; head retracted; passes everything in bed; getting much thinner. July 1st.—Looks as though recovery was impossible. July 7th.—Very much better, talks rationally; very weak, no stiffness of neck. Temperature from admission till July 2nd was very irregular, from 100° to 102°, after that date it became gradually normal. July 19th.—Patient is well, but he was very thin and weak for a long time.

Case 6.—M. W., aged 21, a woman. Admitted, under Dr. Prowse, on January 15th, 1901. Death on January 26th. History of present

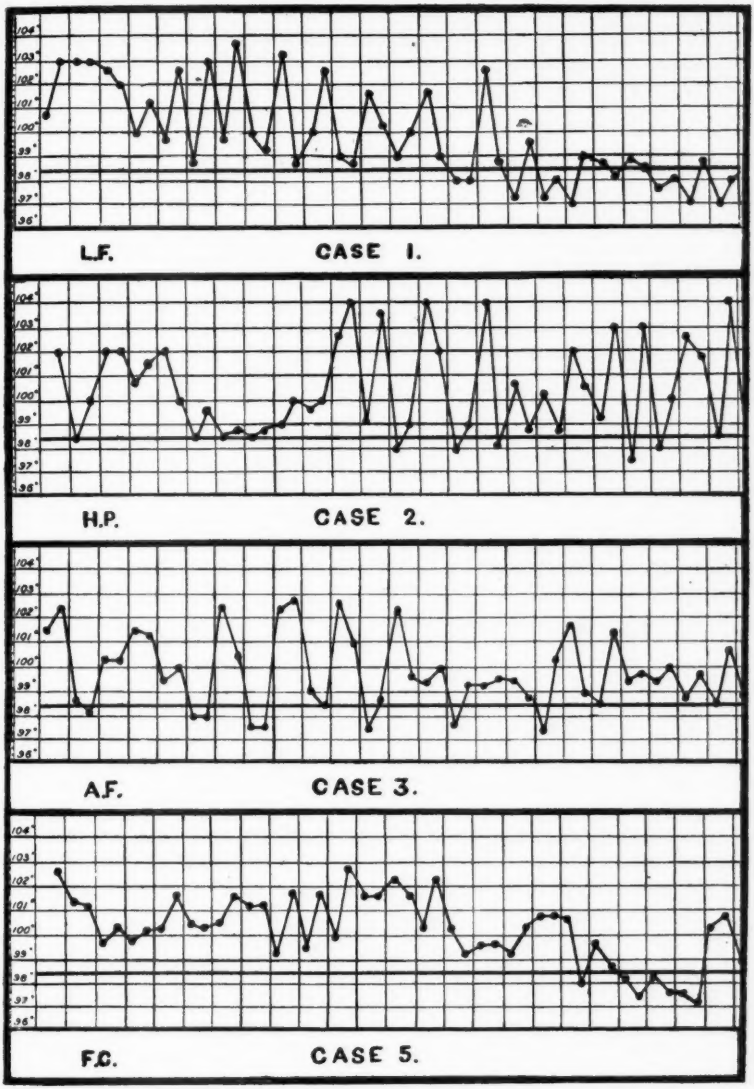
illness was—pains in the head, followed by pain in all the limbs, two weeks ago.

On admission: pain occasionally excruciating in head and back of neck; neck is stiff, but there is no retraction; face flushed, and herpes is present about the mouth; very torpid, she has been deaf since childhood, but is much more so now; sight, smell, and taste natural; Kernig's sign well marked: no rash; arms are quite flaccid. Jan. 17th.—Now slight retraction of head; knee-jerk absent on right side; eyes natural, no optic neuritis; lumbar puncture showed turbid serum with intracellular diplococci; complains very much of diplopia; no albumin. Jan. 18th.—Suddenly got very ill, looking as though she were about to die, and became semi-comatose. Jan. 19th.—Again sensible. Jan. 22nd.—Neither knee-jerk obtainable; urine readily reduces Fehling's solution. Jan. 24th.—Quite blind since yesterday; left ext. rectus paralysed, and fundus natural; neck still very painful. Vomited once. Jan. 25th.—Urine contains 1 per cent. of albumin, no sugar, urea 4 per cent.; neck better, less deaf and more sensible. Jan. 26.—Without warning she suddenly died. Three lumbar punctures all gave typical growths of the specific organism. Coverslip preparation of blood from a vein showed no micro-organims, and an agar tube inoculated remained sterile. The temperature has been irregular, from 99° to 103°.

P.M.E.—The base of the brain from the optic nerves backwards was thickly covered with lymph, also the under surface of the cerebellum. The cord had œdematous lymph as far down as the dorsal region lying on the pia mater. No excess of fluid in the ventricles, and no lymph on the convexity of the brain.

On looking over old and recent accounts of this disease, there seems to be no doubt that it must be commoner than is supposed, and that a number of cases have occurred which have not been diagnosed. Sometimes it appears as a mild attack which has passed as febricula, a bilious attack, herpetic fever, etc., and on the other hand it is probable that many cases which were called simple or posterior basic meningitis had the same etiology. The disease used to be considered due to the diplococcus pneumoniæ, and it seems certain that this microbe is occasionally the exciting cause. Others have described cases of streptococcal origin. One, therefore, has to consider that practically the same clinical disease is due to several different micro-organisms. In such a complicated and often so definite a condition this is curious; and should the question of treatment by a specific antitoxin arise it would certainly be important that a differential diagnosis should be established, and therefore lumbar puncture will not only be interesting but useful.

The most constant conditions found on examination seem to be: an irregular temperature not assignable to other causes, pain




*Cerebro-Spinal Meningitis. Morning and evening temperatures only.*
The charts date from the day of admission.

in the back of the head and neck, general hyperæsthesia, herpes labialis, Kernig's sign, and the discovery by lumbar puncture of the specific microbe.

Very little mention is made in recent epidemics of the presence of the diplococcus in the blood, though one series is reported in which it was constantly found and easily grown. A syringeful of blood was taken in three of these cases, but all proved sterile.

Roughly speaking, about half the known cases recover, and no doubt the mortality of all cases is considerably below this.

A considerable number of lumbar punctures have been made in the Royal Infirmary in different diseases, and it is worth recording that the proceeding has always been very easy and almost painless, in fact less objected to than the similar proceeding so often performed for exploring a chest. The same needle is used, and the depth of puncture is about two inches in an adult. The spot chosen is the first inter-spinous interval above a line joining the highest part of the crests of the ilia; a syringeful of fluid is easily obtained. No after-effects for good or ill have been noted. A coverslip preparation should be made at once and stained with methylene blue, and if positive another by Gram should show complete decolourisation, if Weichselbaum's, *i.e.* the microbe under discussion, is present. An agar slope tube should have about a drachm squirted on to its surface, and incubated at 37° C. The growth appears in one to four days.

It seems curious that this disease, which is clinically, in its severe forms at least, so definite, and therefore so readily recognised, should spring up so suddenly that during the summer months of last year several groups of cases appeared and were reported from various parts of the United Kingdom.

Since this paper was written three other cases of cerebro-spinal meningitis have been under observation at the Royal Infirmary.

# Progress of the Medical Sciences.

## MEDICINE.

**Appendicitis** still occupies a prominent place in medical literature. The frequency and serious nature of the disease no doubt justifies the place it occupies in the minds of members of the profession; but it is not to the medical or surgical aspects of appendicitis we wish to refer, but to some of the *complications* that may not have attracted general attention.

*Intestinal obstruction*, as a complication of appendicitis, is the subject of a paper by Marion.[1] He states that appendicitis may occasion intestinal obstruction in five ways: firstly, by inflammation of the intestinal wall producing paralysis of the bowel; secondly, by general adhesions of the peritoneum left after recovery from peritonitis, consequent upon appendicitis; thirdly, by localised adhesions causing fixation of a coil of intestine in an abnormal position; fourthly, by strangulation of a loop of intestine in a ring or under a band; and fifthly, a somewhat hypothetical cause is given. Marion considers that reflex disturbances may be set up by trouble in the appendix, which are sufficient to cause intestinal obstruction, and refers to cases he considers only to be explained in this way. Possibly the most interesting cause of intestinal obstruction is that given under the fourth heading. The appendix may form a ring or loop by adhesion of its extremity to the brim of the pelvis or to some point in the iliac fossa, and through this ring a coil or knuckle of intestine may slip and become strangulated. One recorded case of the kind is referred to. I happen to have met with two cases of intestinal obstruction caused by the appendix in this way. Another recorded case of somewhat different character is quoted. In that case a long appendix had become twisted round the ileum, and fixed in its encircling position by adhesion to the cæcum. The lumen of the ileum was compressed, and intestinal obstruction had followed. Most of the other cases of obstruction referred to in the paper might be produced by peritoneal adhesions following any form of inflammation of the peritoneum; but appendicitis is so common a disease, that no doubt adhesions which occasion intestinal obstruction are more commonly the result of previous trouble in the appendix than those who have not looked for this cause may be disposed to think. Marion records, amongst other cases, two examples of intestinal obstruction associated with generalised peritoneal adhesion following appendicitis, and reference is also made to various cases produced by localised adhesions, one of which is recorded by Bouglé [2] in an earlier number of the same journal.

[1] *Gaz. d. Hôp.*, 1900, lxxiii. 1439. [2] *Ibid.*, 837.

Figures are given illustrating obstruction produced by the retention of small coils of the ileum in acutely flexed positions, and of a twist of the ileum immediately above the cæcum, which is described as a volvulus. A volvulus the result of localised adhesions would be an interesting occurrence, but it does not seem that this case was an ordinary example of volvulus. The small intestine was partly twisted round itself, but the affected coil was firmly adherent to pelvic structures by old adhesions, and the obstruction was probably due to a kink. It is, in fact, definitely stated that the coil was bent at an acute angle, and there is no mention of strangulation of the coil such as occurs in true volvulus.

The variety of intestinal obstruction mentioned under the first heading is commonly associated with acute appendicitis, but cases may occur in which the cause of the obstruction may not be evident. Marion records a case in which neither he nor a colleague were able to arrive at a definite diagnosis until laparotomy was performed. The observation of this difficulty of diagnosis is interesting, but can scarcely be described as new. Hilton Fagge mentions that he has twice seen the abdomen opened for intestinal obstruction, and the cause found to have been appendicitis. It may be mentioned in passing that Dr. Fagge definitely speaks of inflammation of the appendix in these two cases. The morbid anatomy of appendicitis has been known to the pathologists of Guy's Hospital for many years. It is the surgery of appendicitis, rather than the pathology, which is of recent date.[1]

Another complication of appendicitis upon which a paper has recently appeared is *subphrenic abscess*.[2] Two cases are recorded—one in a woman aged forty-nine, the other in a girl aged sixteen. In the first case an attack of appendicitis had occurred five years before the time she had been seen by Dr. Baldwin. In March, 1899, she again suffered from pain in the region of the appendix. She had been losing flesh, and there was continual elevation of temperature. On July 6th the appendix was removed, but little improvement occurred, and on July 20th an abscess began to point on the right side of the abdomen near the tip of the twelfth rib. This was opened, and the pus found to come from an abscess below the diaphragm. In the second case the subphrenic abscess quickly followed gangrenous appendicitis. Dr. Baldwin states that he has found records of forty-three cases of subphrenic abscess following appendicitis, a large number of which were discovered in the *post-mortem* room. It is interesting to note that in Dr. Baldwin's cases apparently there was no abscess around the appendix which communicated directly with the abscess below the diaphragm. I have seen two cases in which a channel of pus extended from the

[1] Hilton Fagge, *Principles and Practice of Medicine*, vol. ii., 1886, p. 212. Also Wilks, *Lancet*, 1900, ii. 1303.

[2] Baldwin, *Med. News*, 1900, lxxvii. 53.

region of the appendix along the outer side of the ascending colon upwards to the liver, where it expanded into a subphrenic abscess. Such cases are, however, of much less interest than those in which no such direct connection with the appendix exists. The existence of the isolated abscess can, however, be explained on physiological and anatomical grounds. A recent paper by Dr. Byron Robinson[1] on the peritoneum refers to features of this serous membrane which explain why inflammation is so often much more marked immediately below the diaphragm than in other parts of the abdominal cavity. It may be remarked in passing that such excess of local inflammation is the rule. In both acute and chronic peritonitis the recent or organised exudation is generally much greater on the under surface of the diaphragm, over the upper surface of the liver and outer surface of the spleen, than elsewhere. It is this excessive thickening in chronic peritonitis that led to the idea that perihepatitis was a distinct and limited disease, instead of being merely a part of chronic inflammation affecting the whole of the peritoneum. The explanation of the localisation of inflammation to the upper part of the abdomen lies in "the vast function of absorption performed by the diaphragm and the very small part taken in this process by other portions of the peritoneum." The peritoneal currents run upwards, and it can readily be seen that microbes washed from the appendix to the upper surface of the liver may be delayed in their exit from the peritoneal cavity. Multiplying in their new position, they set up another focus of inflammation, which may result in suppuration, and, if adhesions be formed between the great omentum and abdominal wall, in a localised subphrenic abscess.

There is one other way in which a subphrenic abscess, secondary to appendicitis, may arise. That is through the medium of an *abscess of the liver*. In such a case it is needless to say the micro-organisms are carried to the liver by the blood. Dr. Baldwin refers to the possible existence of an abscess of the liver. I have seen such a case. An abscess, the size of an orange, opened on the upper surface of the liver, set up a subphrenic abscess, and, finally, general suppurative peritonitis. Death took place about a year after an attack of appendicitis, which was, without doubt, the cause of the hepatic abscess. In this connection it may be mentioned that a case of abscess of the liver, following appendicitis, was reported last year at a meeting of the Société de Chirurgie de Paris by M. Loison.[2] To return, however, to subphrenic abscess, Dr. Baldwin has seen such an abscess perforate the diaphragm, and discharge itself through the bronchial tubes of the right lung, with recovery of the patient. Perforation of the diaphragm is probably rare, but the spread of inflammation through the diaphragm is, no doubt, very common. In the great

[1] *Med. Rec.*, 1900, lviii. 126. [2] *Gaz. d. Hôp.*, 1900, lxxiii. 198.

majority of cases of subphrenic abscess, due to various causes, the pleura on the side of the abscess becomes involved, and the variety which follows appendicitis is not likely to be an exception to the rule. And, apparently, in some cases the pleural effusion may be so extensive, and the amount of pus below the diaphragm so slight, that the condition of the chest is the most prominent feature of the illness. M. Dieulafoy has written a paper upon this subject, and describes the condition as "*pleurésie appendiculaire*."[1] Two cases are described which came under his own observation, and others are referred to recorded by several writers. Usually the pleural effusion is said to be large in amount and offensive, and in some cases a tympanitic note at the upper part of the chest may show the presence of gas; in other words, there may be a pyo-pneumothrax. It is scarcely necessary to add that the effusion is on the right side of the chest. A brief outline of one of the cases of M. Dieulafoy may be of interest. A man, aged 26, was admitted to l'Hôtel Dieu with a pleural effusion obviously filling almost the whole of the right side of the chest; a tympanitic note being present only at the apex. The patient presented not only the evidence of dyspnœa, but was collapsed. M. Dieulafoy therefore lost no time in ascertaining the nature of the fluid in the chest, and a syringeful of turbid offensive fluid was drawn off. Before, however, an operation for the evacuation of the fluid could be performed the patient died. Apparently nineteen days before admission he had commenced to suffer from pains in the lower part of the right side of the abdomen, which four days later had spread to the hepatic region. Pains in the right side of the chest followed, and the medical man in attendance called a *confrère* into consultation, who found a pleural effusion at the back of the chest and a loud pleuritic rub in front. As already indicated, nineteen days after the onset of abdominal pain he was removed to the Hôtel Dieu, and there died before anything definite for his relief had been attempted. At the autopsy, in the right pleural cavity were found over six pints of fœtid pus. Channels of pus were found passing up behind the cæcum and colon to the upper surface of the liver, but apparently the suppuration in the abdominal cavity was not great. Only a thin layer of pus covered the right lobe of the liver. Old peritoneal adhesions were present, but no recent general peritonitis. The appendix was inflamed and almost gangrenous, but no perforation had taken place. In the above case the progressive advance of the inflammation from the region of the appendix to the upper surface of the liver, and from there to the right pleura, is obvious from the history; and such a history, when one's attention has been drawn to this possible sequence of events in appendicitis, would suggest the correct diagnosis. Yet the discovery of fluid in the chest may monopolise attention,

[1] *Bull. Acad. de. Méd.*, 1900, 3e. Sér., xliii. 438.

and its sub-diaphragmatic origin be unsuspected. Even where a subphrenic abscess has been present, Dr. Baldwin remarks that the presence of symptoms and physical signs pointing to the chest has led to the suppuration below the diaphragm being overlooked during life; its presence having been only discovered at the autopsy.

Dieulafoy has described pleural effusion following appendicitis as "*pleurésie appendiculaire*," and the name implies that the pleurisy is a complication of appendicitis, but *pneumonie à forme appendiculaire* is a name given to pneumonia when the symptoms resemble those of appendicitis. In a recent article upon this subject,[1] Morris, Mirande, and Hutinel are mentioned as having described cases. The disease is said to commence with the classic symptoms of appendicitis, which last three or four days. There is repeated shivering, with vomiting, and pain in the right iliac fossa. Cases have been operated upon, and the appendix found to be perfectly normal. Apparently not until the fourth day are there symptoms and physical signs which attract attention to the chest. Mistakes are said to be most likely to occur in children, but difficulty of diagnosis may also be present in adults. We are all aware how cases of familiar disease may sometimes prove to be difficult of recognition, yet one cannot help thinking that the mistake of diagnosing appendicitis where pneumonia exists must be in great measure due to the large place appendicitis occupies at the present time, in the minds of the medical profession. Physical signs of lobar pneumonia in children are often very late in appearing, in fact one may say that it is the exception rather than the rule to find evidence of the presence of consolidation before the fourth day of the disease. Abdominal pain and vomiting also are not uncommon; but an abnormal rapidity of breathing, if looked for, generally correctly suggests to the observer the nature of the complaint, which will definitely manifest itself at a later date. Yet in the light of records of other cases referred to above, which show that inflammation of the pleura may accompany appendicitis, it is clear that one must be careful not to go to the other extreme and ignore symptoms that suggest trouble in the abdomen.

THEODORE FISHER.

## SURGERY.

Reports of cases of **actinomycosis** are disquieting reading, for there can be no doubt that the disease is still regarded by many as rare and infrequent, whereas records show that this view is mistaken, while it is abundantly evident that there is very serious danger—in spite of being alert and on the watch—of

[1] *Semaine méd.*, Janvier 9, 1901, p. 13.

failing to recognise the condition. This arises from the obscure and ill-defined symptomatology of the disease, and its close resemblance in clinical features to several much commoner lesions.

These difficulties have been emphasised by Mr. Godlee[1] in a recent account of thirteen cases. The specific organism—streptothrix actinomyces—grows on cereals and grasses, and may apparently be communicated in the dust from a threshing machine; by chewing fresh corn, or sucking straw or grass; possibly directly from an infected animal; and very likely in many other ways. The incubation period is said to vary from a week to several years. Once implanted, the organism grows and sets up inflammation. Sometimes an ulcer is formed; at other times a tumour, which is "of a pale yellowish colour, globular in shape, riddled with holes of a larger or smaller size containing pus, and very vascular, although it presents a superficial resemblance to the interior of a tuberculous or gummatous deposit."[2] It infiltrates all the tissues, spreading in the intermuscular planes, and even into the muscles, entering into the cancellous tissues of bone, and the solid viscera, and sometimes forming communications between the hollow viscera. The growth may be carried by the vascular channels as emboli, and deposited in distant parts of the body.

Pathologically, the tumours consist of a network of fibrous tissue, whose interstices are filled with masses of streptothrix surrounded by a zone of small round and epithelioid cells, and occasional giant cells. Sometimes the fibrous network is excessive, and a more definite tumour results, or it may so much increase as to crowd out the organism, producing a spontaneous cure.[3] Much more frequently there is an over-production of the streptothrix with breaking down of the tissue and formation of an abscess, with a resulting sinus when it opens or is incised. It is in the discharge from such an abscess or sinus (as also in the expectoration, or in the stools in some cases) that the first definite indication of the disease is to be sought. These are the so-called "sulphur granules"—small round granules, sometimes very minute, sometimes larger; generally pale yellow, but sometimes white—which are demonstrated by allowing the discharge to run over a microscopic slide, or down the side of a test-tube. According to Dr. Ruhräh,[4] Langhans has reported a case in which the granules were black, and he says they may be of a greenish hue. If one of these granules be placed in a little water on a slide, and gently pressed under a cover-glass and examined under a high power, "a densely felted mass of threads" will be seen with the so-called clubs arranged radially around it.[5] In some cases, however, the latter are not to be seen. The disease appears to be more than twice as common

[1] *Lancet*, 1901, i. 3. [2] *Ibid.*
[3] J. Ruhräh: "Actinomycosis in Man," *Ann. Surg.*, 1899, xxx. 429.
[4] *Loc. cit.*, 425. [5] Godlee, *loc. cit.*

in men as in women, and to occur most frequently during the third decade of life.

By combining statistics of various observers, including a large number of cases, Dr. Ruhräh finds the percentage for different regions to be as follows: head and neck, 55 per cent.; digestive tract, 19 per cent.; pulmonary, 14 per cent.; skin, 2 per cent.; and doubtful, 5 per cent. If the recorded cases are examined it will be seen how difficult the diagnosis often is, and how close the likeness sometimes is with tubercular affections and chronic inflammations especially, and not infrequently with syphilitic lesions—chiefly gummata—and even new growths.

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It will be convenient to consider the cases under the above general divisions:—

*Head and Neck.* (1) Actinomycosis of the jaw. This generally simulates the common periosteal or alveolar inflammations, or occasionally suppuration in the antrum. The chief characteristics appear to be that one swelling follows another with great inveteracy, sinuses are very obstinate, and induration, or infiltration, is apt to occur widely in either an upward or downward direction.

Dr. Ruhräh[1] considers that the cases where the lower jaw and adjacent structures are involved (temporo-maxillary) have a more distinct clinical history than most other forms, the symptoms being an almost constant sharp pain on a level with the last molars, the early appearance of *trismus* of varying intensity, and the boggy consistence of the swelling. He also lays great emphasis on the absence of involvement of the lymphatics, which he describes as a constant feature of the disease, no matter where the site may be. The trismus is attributed to an involvement of the muscles of mastication, although in some cases the temporo-maxillary joint is affected. Carious teeth are usual, but not, judging by the records, invariably present. In a case under the care of Dr. C. A. Hoover[2] it had never been possible during life to demonstrate the streptothrix, although the patient was under observation for many months, with repeated operative treatment; and at the autopsy very widespread disease was found.

(2) The disease may appear as an ulceration of the mucous membrane of the mouth, as in an interesting case published by Dr. J. C. Oliver.[3] A sore developed at the left angle of the mouth three or four years before, which was papillomatous, with a slight ulceration around. This was curetted and healed, leaving a "white indurated patch." Two similar sores developed later, and were treated in the same way, with the same result. Coincidently a purulent affection of the gums appeared, for which all the lower teeth, except the last two molars, were

[1] *Loc. cit.*, 436. [2] Quoted by Ruhräh, *loc. cit.*, 438.
[3] *Ann. Surg.*, 1900, xxxii. 668.

extracted, and the artificial teeth were clamped to these teeth. An ulcer appeared opposite the clamp in the right cheek, and spread rapidly. No streptothrix or tubercle bacilli were found in the scrapings. Iodide of potassium was then given in large doses for two months, on the chance of the lesion being syphilitic, but the ulceration only extended farther and became very painful. Swellings formed in the submaxillary region and at the angle of the jaw, and the condition suggested epithelioma. While an operation for this was being considered the submaxillary swelling softened. On incising this "a thin, greenish-yellow fluid containing some yellowish-white curdy masses" was discharged. The microscope again failed to show the streptothrix. Eventually a radical operation was undertaken, but within three weeks an enlargement began just behind the scar of the incision in the neck; œdema of the face, and signs of antral disease, followed, and finally brawniness of the right side of the neck, with four or five lumpy enlargements under the jaw. A lump under the ear softened, and on being opened the same greenish fluid was evacuated with "white or whitish-yellow particles, looking like caseous masses," among which, after prolonged search, the streptothrix was discovered. The patient eventually died of arterial hemorrhage, probably from the lingual artery.

(3) Actinomycosis about the gum seems to be often manifested by fungous masses of granulation tissue about a carious tooth.

*Pulmonary.*—This form may apparently start as a broncho-pneumonia, or pleuro-pneumonia where the disease has spread from adjacent structures, but the two kinds assimilate in the later stages. Many cases have been recorded of this class of disease, and one or two features are conspicuous in most of them. Almost invariably we find the appearance early in the disease of abscess-swellings over some part of the chest wall, or under the costal edge—much more occasionally a pleurisy or empyema—with many of the signs of tubercular disease of the lungs. In this latter connection Israel[1] stated that these signs were almost always in the *lower* lobes of the lung, but there would seem to be many exceptions to this rule. Fever is an early symptom, and resembles the tubercular type, but it depends a good deal upon the development of secondary infections which are very common. There is always expectoration, which is often fœtid, and occasionally bloody; but hæmoptysis is very rare. The organism can generally be found in the expectoration, although it is sometimes apparently absent. A constant symptom is pain referred to the lung of the same side. A lateral curvature of the spine often occurs, the concavity being towards the affected side.

*Abdominal.*—The two most practically important varieties under this heading are actinomycosis affecting the liver, and

[1] Quoted by Ruhräh, *loc. cit.*, 608.

some part of the alimentary tract. (1) Dr. Ruhräh states that the disease is never primary in the liver, whereas Mr. Godlee[1] reports six cases in which he believed that organ to have been first infected. In all cases lung or thoracic symptoms became prominent features, and in several no enlargement of the liver was felt below the costal edge. One case[2] was very interesting, as showing the extreme diffusion by emboli that may occur; the interest of another[3] lay in the failure, in spite of repeated examinations, to detect the fungus, which was due to the mycelium being more delicate than usual, and not presenting the clubs. The same kind of lateral curvature as seen in the pulmonary form is apt to occur in these cases. (2) In the alimentary tract infection occurs where the intestinal movements are most sluggish, and the cæcum and its surroundings—especially the appendix—is the favourite site. In 40 cases collected by Grill,[4] in which the point of entry was definitely made out, 18 began here. Hinglais[5] found this region implicated in 60 out of 100 abdominal cases. He describes the disease here as having four stages: (1) Intestinal disturbance, diarrhœa persistent, with perhaps blood and mucus, and tenesmus; rarely constipation. There is no tumour to be made out by palpation or rectal examination. (2) Localised pain, with a tumour of unequal resistance—the skin becoming reddened, and later violet-blue. This stage may last a varying time, and there may be remissions. The disease may now extend to other organs. It may become infected with other organisms and extensive abscess formation take place, most frequently ending in (3) the formation of fistulæ. (4) The disease may be arrested and a spontaneous cure result. Cases, however, will be found recorded with a much less definite course.

*Skin.*—These cases are quite rare, but Leser[6] describes two forms—(*a*) ulceration; (*b*) a discrete nodular skin inflammation, with central cicatrisation and peripheral extension, as in lupus. He considers the absence of lymphatic involvement almost pathognomonic, and he says the board-like indurations and the grossly nodular conditions which are found in these cases are not usual in the other affections. Actinomycosis of the skin may also be mistaken for rodent ulcer.

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The **diagnosis** of actinomycosis has been partly considered in the foregoing remarks, but a few special points may be brought into prominence here. The only absolutely diagnostic feature is the discovery of "sulphur granules," in the discharge from sinuses or abscesses, or in the sputum or stools; but there are other indications that are very suggestive, and should arouse suspicion. Great stress has been laid by some observers

[1] *Loc. cit.* [2] Case VI., p. 6. [3] Case VII., p. 7.
[4] Quoted by Ruhräh, *loc. cit.*, 620.
[5] Quoted by Ruhräh, *loc. cit.*, 622. [6] Quoted by Ruhräh, *loc. cit.*, 722.

on the absence of involvement of the neighbouring lymphatics in all cases. The character of the abscess, as determined by the finger, Mr. Godlee[1] says would make him almost certain of its nature—"the indefinite spongy walls, easily breaking down before the finger in all directions and bleeding very freely, are almost unmistakable when they have been felt two or three times." Dr. Ruhräh,[2] in commenting on a case of Dr. Blake's which he saw, says the back was the seat of numerous sinuses, "whose puffed and reddened openings, together with the livid intervening skin, gave a perfect picture of actinomycosis"; and Volkmann, Boström, and Bernhardt[3] believe that the reddening of the skin turning later to a violet-blue tint, shading from the centre to the periphery, is "diagnostic" of the disease. Under the term pseudo-actinomycosis are grouped diseases which resemble in their lesions actinomycosis as it has been described here, and which are supposed to be caused by separate organisms. How far this view will be borne out time must decide; meanwhile it may be noted that it has been suggested that streptothrix actinomyces and bacillus tuberculosis may be closely allied organisms, in which view the clinical association of their lesions is significant.

The **prognosis** seems to depend (1) on the possibility of a radical extirpation of the growth—that is, on its size and the position it occupies; (2) on the presence or absence of secondary infection, as in the former case metastases are said to be more apt to occur, and these are the conditions in which the administration of the iodides often fails; they are also more likely to be extensive.

**Treatment.**—This is indicated by what has gone before. Whenever possible the diseased area should be completely excised, and Dr. Ruhräh recommends that after this has been done the area (when it is permissible) should be thoroughly cauterised. The administration of iodide of potassium should always be pushed at the same time, beginning with 5 or 10 grains three times a day, and increasing it to 40 or 50 grains thrice daily. In the pulmonary cases it is recommended to use oil of eucalyptus both internally and by inhalation, but this should not interfere with the exhibition of iodide of potassium. For injections into sinuses, etc., a number of substances have been employed—tincture of iodine, carbolic acid, salicylic acid, nitrate of silver solutions, iodoform, etc., etc. But the only hopeful treatment seems to consist in excisions, or curettings, repeated as often as necessary and as early as possible, with the internal administration of iodide of potassium up to the limits of the patient's endurance.

W. M. Barclay.

[1] *Loc. cit.*, 6. [2] *Loc. cit.*, 615.
[3] Quoted by Ruhräh, *loc. cit.*, 622.

## OPHTHALMOLOGY.

The special attention which has been drawn towards our army during the past year, and the suggestions for reform, have given fresh interest and importance to the discussions held at the Annual Meeting of the British Medical Association, at Portsmouth, as to the standard of vision required, and as to the **visual tests** used in examining candidates for the army, navy, and mercantile marine.

The statement made that the Boer can see twice as far as the British soldier has excited much comment, and emphasised the necessity for good eyesight in soldiers, particularly under the conditions of modern warfare. In our army—although the large majority of our soldiers may see well—we are probably admitting a considerable number of men with such defective eyesight as to render them not only useless for purposes of attack, but positively dangerous to their own comrades when important duties, such as sentry work or scouting, have to be performed.

Deputy-Surgeon-General Cayley, I.M.S., in opening the discussion, said: "It would of course be most desirable that all the men in the navy, the army, and other services should have normal vision, but such a standard seems to be quite unattainable. To get the requisite number of recruits, the services are forced to accept men whose vision is up to a certain standard of practical fitness, though below normal."

Recruits to the British army are required to be able to count round black dots $\frac{1}{5}$th inch in diameter at a distance of 16 feet. This corresponds with the ability to see the 3-foot bull's-eye target at a distance of 600 yards, or to read Snellen's type letters D=24 at 6 metres ($\frac{6}{24}$). Sir T. Longmore found that this standard of vision is represented by a myopia of 1.75 D. A man with 1.75 D of myopia has no clear vision beyond about 3 feet. He does not recognise a man's face beyond 6 yards, instead of at about 80 yards; he cannot see a man more than 400 yards, instead of 1200 yards from him, nor a mounted moving man more than 700 yards away, instead of 2000, as could be done by a person with normal sight. A soldier with such imperfect vision cannot carry out in a reliable manner the duties required of him under the conditions of recent warfare.

The standard of vision required by officers in all branches of the army is at least $\frac{6}{24}$ on Snellen's method, with each eye separately, unaided by a lens; and, in addition, with suitable lenses, one eye must have full vision and the other $\frac{6}{12}$. Any myopia that is present at the age when officers join the service is likely to develop still further, and in the writer's opinion the necessity for the use of glasses is, if possible, to be avoided, and

without their assistance the standard required is not high enough. It could be raised to $\frac{6}{18}$ or even to $\frac{6}{12}$ without any material loss of suitable candidates. The small number of marks which separate the successful from the unsuccessful competitor in the literary examination would be often more than compensated for by a definite superiority in eyesight or physique. Plenty of young men are likely to continue to apply for commissions whatever regulations are required, and a severe examination of physique and eyesight should precede the intellectual one. In the case of private soldiers we may have to be content with a low standard of eyesight, as of other qualifications; but a large majority of those wishing to enlist would be found able to pass a much more stringent examination than is now required, and it is questionable whether it is advisable to admit combatants who fall short in physique or in eyesight, in order to increase the numerical strength of our forces, to the detriment of their value as a fighting machine. Certain branches of the service absolutely require perfect eyesight—the cavalry man, who has to act as scout; the foot soldier, who has to do sentry work or to fire at an enemy 1,000 or 2,000 yards away; and especially the artilleryman, who is responsible for the laying of a field-piece. For engineers and those concerned in office routine, and for branches requiring more mental effort or closer handiwork, a degree of short-sight otherwise prohibitive may be allowed.

Not only is the standard of vision too low, but the present method of testing eyesight for the services is unsatisfactory. 1. The standard of vision is an uncertain quantity; it varies in degree according to the light used, and with the particular material on which the letters are printed. There is much difference between the illumination in a dark or in a light room, and between the latter and open daylight; while the daylight may constantly vary. A definite standard of illumination should be employed if a mathematical standard of vision is to be enforced. Many myopes are able by a strained effort of the orbicularis, or with the finger, to produce a contraction of the palpebral aperture, which materially improves the sight, and no objection appears to be raised against this artificial aid, without which the candidate would in many cases fail to see the selected types. 2. The testing is entirely subjective, and no attempt is made to estimate the real condition or refraction of the eye. A candidate may pass the tests readily, and yet have such a degree of hypermetropia that glasses will soon be required. As Dr. George Mackay said in a paper on "Eyesight and the Public Services" before the Ophthalmological Society, on January 31st, 1895: "I am certain that the present neglect of refraction in estimating visual capacity is costly to the employer (whether the State, the company, or the capitalist), and the cause of hardship to the employed;"[1] and the opinion

[1] *Tr. Ophth. Soc. U.K.*, 1895, xv. 201.

of those best qualified to judge on this matter was expressed in a resolution passed at the same meeting to the effect that "no examination of eyesight is fair or satisfactory which depends merely upon the examination of the form-vision by test types and dots, and omits an estimation of the refraction." It is urged by those who are responsible for the examination of recruits that the time required for objective testing of the refractions in each case would be too long; but any ophthalmic surgeon could almost as rapidly decide whether the ametropia was outside a given amount, as whether the candidate possessed the necessary standard of vision for counting dots.

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Candidates for commissions in the royal navy are not considered eligible who are subjects of any degrees of myopia or hypermetropia. For admission to the navy perfect form and perfect **colour vision** are required. A limited discretionary margin is allowed in the case of certain classes of officers, such as chaplains and clerks. Some officers of the navy have short-sight, which had not declared its presence at the early age when they entered the service. If it is essential that seamen in the royal navy should have perfect vision, those in the mercantile marine, and particularly those employed upon the passenger liners, should also be required to have good sight. The Board of Trade regulations on the subject cannot be considered satisfactory. Ordinary seamen are not required to pass any visual test, although they may be called upon to act as look-outs, and thus have the safety of a whole ship dependent upon their good sight. Certificated officers and apprentices, however, are required to have perfect colour vision as tested by Holmgren's wools, and with either one or both eyes open must possess $\frac{1}{3}$rd to $\frac{2}{3}$ths of normal form vision. This standard is too low, particularly when we consider that the test is conducted by lay examiners, whose observations or deductions may not be perfectly reliable. Moreover, Bickerton has stated that even after a man has failed to pass the Board of Trade tests for form or colour vision, and has been officially announced to be nautically blind, there is no provision made to prevent him from continuing to follow his occupation as a seaman.

A pilot has the entire responsibility for the steering of a ship from the moment he takes charge of her. The authorities evidently recognise that pilots should have good sight, as they require both perfect form and colour vision from those who are employed in the Indian pilot service. In the British Isles, however, no standard of vision for pilots has been formulated, nor is their sight tested, except in accordance with the local regulations at a few ports.

For seamen and railway employés perfect colour vision is of special importance, and a thorough application of Holmgren's wool test, now officially recognised by the Board of Trade and

in all branches of the public services, would appear to be a reliable means for judging of the colour sense.

It would seem, however, to be possible that a candidate who has, without hesitation, matched all the skeins correctly may, under the actual conditions obtaining at sea, be unable to estimate correctly his light signals; and Bickerton[1] quotes, among other cases, one in which the mate of a 4,000-ton steamer, who could match Holmgren's wools perfectly, mistook the green side-light of a ship for a white masthead-light, and almost caused a collision owing to his error.

With a view of detecting such cases of colour defect (which he thinks may depend on scotomata), Grossmann[2] has devised a new apparatus by means of which colour effects can be compared under varying intensities of degree or illumination. He describes this instrument as follows: "In order to reproduce in the apparatus the actual conditions of practical life, I took as the source of light an ordinary signalling hand-lamp, such as is used on some railways. In front of the bull's-eye are placed two metal discs, capable of being moved round their centres, and perforated near their edges by circular apertures filled with glasses of various colours. The colours in each of the discs correspond, though arranged in different order. On the other side of the discs is a metal plate which overlaps them, and is perforated by two holes, one beside the other. Each of these holes is so placed, that by rotating the disc on its corresponding side, each of the coloured glasses is in turn brought between it and the bull's-eye of the lantern.

"Between the bull's-eye and each opening in the plate there is an iris diaphragm, with indicators showing the diameter of the apertures in millimetres. Between the diaphragms and the lamp two slips of glass, suitably mounted, are made to slide up and down. These slips are tinted neutral grey, the intensity being graduated from complete transparency at one end to almost complete opacity at the other."

By this means the opening for the light falling through a coloured glass can be made to vary in any size from 10 mm. diameter to pin-point, and in intensity from light to dark. An almost unlimited variety of lights, both coloured and "white," can thus be obtained. Both discs can be moved independently, as can also the diaphragms and glass slips.

A convenient way of using the instrument is to place it facing a mirror 15 feet away, from which the coloured lights can be seen reflected. Having suitably adjusted the iris diaphragms and tint slips, select a colour on one disc, and direct the "patient" to turn the other disc around until the colours as seen in the mirror match; or a colour may be exposed on one disc, and then covered over while the patient tries to match it on the other disc from memory.

[1] *Brit. M. J.*, 1900, i. 621. [2] *Ibid.*, 1900, ii. 1764.

The method is more simple than might appear from this description of it; and coloured lights can be examined through it nearly under the conditions obtaining in actual life, both by rail and sea. Though much care is already taken, no efforts should be spared to still further diminish the danger of accidents being caused by imperfect eyesight.

F. R. CROSS.

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# Reviews of Books.

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**Essentials of Diagnosis.** By SOLOMON SOLIS-COHEN, M.D., and AUGUSTUS A. ESHNER, M.D. Second Edition. Pp. 417. London: Henry Kimpton. 1900.

What the object is of arranging a book in the form of question and answer, it is very difficult to see. That there is some demand for it is probable, as there are so many of them. No doubt the method handicaps anyone in writing a work on medicine. But even apart from this there is but little to say in favour of the work. The accounts of nearly everything are meagre, and one description has to do duty for all varieties.

Take thoracic aneurysm, there is no mention of distinction of parts of the aorta affected, and all the symptoms and signs possible from any position are put into one description.

Some of the questions are curious, as "How is emphysema to be distinguished from a pleural effusion?" "How is tuberculous pharyngitis to be distinguished from typhoid fever?"

The essential principle of diagnosis depends on taking the prominent signs and symptoms and arguing from them by exclusion or otherwise to the probable seat of disease. One would, therefore, consider that in a book devoted to the subject that a prominent feature would be the causes of various symptoms; however, in this work that is not the line which is followed. For instance, headache and coma are not treated of at all under those heads, and to find out their importance reference has to be made to numerous diseases in various parts of the book.

If one has made a diagnosis, then by reference to this book it can be seen that the symptoms already discovered have been by others known to exist in that disease; and this is not, as far as diagnosis goes, of much use after the fact. It is hard to see what class of reader will benefit by adding this book to his library.

**On Neuroma and Neuro-Fibromatosis.** By ALEXIS THOMSON. Pp. viii., 168. Edinburgh: Turnbull & Spears. 1900.

This is a very good and interesting monograph, which will no doubt be in future often referred to as an authority on the subject of which it treats. The author's opportunities of having personally observed the large number—for these rare growths—of fifteen cases have given him a practical acquaintance with them. He has given a new classification of neuromata and allied conditions, which is founded on an anatomical basis. Each variety is described, and there is appended a further summary of the most important cases from the literature of the subject, and of his own cases. Dr. Alexis Thomson points out that the true neuromata—the rarest of all forms—are connected with the sympathetic nervous system, except in one case, which is open to doubt. He separates, on good practical grounds, the solitary or circumscribed tumours of nerves from the general disease, neuro-fibromatosis, and includes under the former the painful subcutaneous tubercle of Wood. Under the title of "Diffuse or Generalised Neuro-fibromatosis" fall von Recklinghausen's disease and elephantiasis nervorum (Bruns). In neuro-fibromatosis the chief seat of the pathological process is the endoneural connective tissue between the individual nerve fibres. With regard to the effects of fibromatosis on the nerve-fibres and the disputed question as to whether it causes degeneration of fibres, the author believes that such degeneration may occur in cases of generalised neuro-fibromatosis, but is exceptional, and of comparatively little importance. Some good examples are given of that most interesting form, the plexiform neuro-fibroma. Towards the end of the book there is a useful general summary with two tables of published cases from all sources, and the work concludes with a bibliography. This renders the book, with the original observations, a very complete study of the subject. It is illustrated with a number of beautiful plates, some of patients and some of pathological specimens, both macroscopical and microscopical. These plates much enhance the value of the text, which is lucidly written, and the clearness of the descriptions is largely responsible for a very interesting monograph, on which the author is much to be congratulated. The publisher has also done his work well.

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**International Contributions to Medical Literature. "Festschrift" in Honor of Abraham Jacobi, M.D., LL.D., to Commemorate the Seventieth Anniversary of his Birth, May 6th, 1900.** Pp. xiii., 496. New York: The Knickerbocker Press. 1900.

The title of this book is taken from the German, as there is no word in the English language which is the exact equivalent of "Festschrift." It is the custom in Germany to present to an

eminent clinical teacher, or professor especially distinguished in some branch of medicine or the cognate sciences, on his attaining his seventieth year, or twenty-fifth or fiftieth year of professorship, a volume of essays written by his former pupils, colleagues, and friends, to celebrate the interesting occasion and perpetuate his memory. Following this custom, the volume before us has been compiled in a similar fashion to celebrate Dr. A. Jacobi's seventieth birthday, and to show appreciation of his many and great services to the profession of medicine in the United States. Dr. Jacobi's name is most widely known and justly distinguished for his work in connection with the study and clinical teaching of the diseases of children; he was "the first to inaugurate systematic and special clinics in diseases of children in New York," and the first President of the American Pediatric Society. Not only distinguished as a teacher and a writer, Dr. Jacobi has "always exerted his influence towards improving the tone and morale of the medical profession," and has been in addition "an active and public-spirited citizen." The honour done to him by the publication of this book has been well earned during a long and distinguished career of many-sided usefulness, in which he has devoted himself to the advancement of all that is best in medicine. In a "Festschrift" it is a point of honour that all the contributors should give of their best, and this volume is no exception to the rule; it contains about sixty articles in English, French, and German. They deal with very various subjects; a large number are, as would be expected from the nature of Dr. Jacobi's own special work, concerned with diseases of infants and children, or upon subjects bearing upon these diseases. Amongst the authors are Adami, Baginski, Max Einhorn, Escherich, Crozer Griffith, Henoch, Hun, Keen and Spiller, Koplik, Willy Meyer, Osler, v. Ranke, Allen Starr, Sir Hermann Weber, and W. H. Welch. We would say, in conclusion, that the general excellence of the contributions is such as to render the volume worthy of a careful study, and that there are many reports of rare and interesting diseases which give it quite a special value, and are not to be found elsewhere. For the rest, it is well and clearly printed, and furnished with excellent illustrations and plates.

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**Care and Treatment of Epileptics.** By WILLIAM PRYOR LETCHWORTH, LL.D. Pp. xi., 246. New York: G. P. Putnam's Sons. 1900.

We recommend this book to those interested in the care and treatment of the sane and insane epileptic. Dr. Letchworth possesses a thorough knowledge of all that concerns this class of sufferers and that may minister to their comfort and improvement. Although the author has freely utilised a large collection of institution reports and statistics, he has by a happy facility

of expression rendered his book agreeable enough reading. No little of the interest which the work excites is due to the evident, though unobtrusive, genuine philanthropic spirit in which it is written; it serves too as a grateful testimony of the benefit that has come from earnest endeavours to ameliorate the lot of an unfortunate class of humanity, and indirectly that of the community burdened by their existence if at large. The author reviews first the causes and principal features of epilepsy, and then the question of special provision and treatment. The greater portion of the book is occupied by well-selected accounts of the State and private institutions in North America and Europe, including England, for the care of the epileptic; details of construction and administration receive much attention. We do not learn anything definite as regards the medicinal and dietetic treatment of epilepsy; the majority of opinions, however, seems in favour of a very moderate meat diet and rare use of bromides. Greatest stress is laid upon open-air exercise and employment, healthy recreation and the fostering of altruistic tendencies in the patients. Dr. Letchworth has done well in placing this record of intelligent and kindly work before the public; there is much need for its general reading in this country, where a comparatively insignificant section of the sane epileptic class is treated in homes or colonies. A great number of weak-minded persons, epileptic or not, would be far better and more intelligently treated by being placed in properly adapted homes and colonies than by being drafted into asylums. We note progressive treatment in this direction at the Wakefield Asylum, and that Dr. Bevan Lewis is fully alive to the importance of the colony system. In course of time no doubt a general attempt will be made to separate the improvable from the irrecoverable portion of the insane class, as has been done at this institution. The book is well produced, and furnished with numerous illustrations.

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**Orthopædic Surgery.** By CHARLES BELL KEETLEY. Pp. xvii., 539. London: Smith, Elder, & Co. 1900.

Mr. Keetley's work on orthopædic surgery has appeared at a time when many such books have been published. He tells us, however, that he planned the work twenty years ago, and that though he recognises that now there is no great want for such a book, he still thinks that his observations in orthopædic surgery, extending over a period of more than twenty years, should now be published. And clearly the book is the outcome of much original thought and extended observation. Mr. Keetley is a surgeon who devotes a great amount of energy to the elucidation of any branch of surgery in which he may be interested, and he has undoubtedly done so with regard to orthopædics. The book is profusely illustrated. Many of the pictures are good, but several of the photographs are hardly worthy of the

book. The order of the chapters is not always well arranged. Why should the chapter on rickets be placed between that on genu valgum and the one on bow legs? It should have preceded both.

The first deformity considered is that of genu valgum. The writer reproduces many of the current views as to its pathology, but gives no evidence that he has himself investigated it, either by dissection of deformed limbs, the examination of skiagrams, or the study of a large number of museum specimens. He does give a figure of one museum specimen, but from the extreme rotation of the limb inwards and the anterior curve of the femur, it is clear that it is not an ordinary case of genu valgum We notice that the author states his belief that the tibia is more often at fault than some surgeons admit, and that Macewen exaggerates the degree and importance of the elongation of the internal condyle, but he brings no evidence in support of these statements. We observe that Mr. Keetley is opposed to Phelps's operation for equino-varus. Phelps has so modified his original operation that it is best to define exactly what we mean by Phelps's operation. It is the free division of the skin Mr. Keetley so strongly objects to. Why we fail to see. Our experience is, that if the case is at all a severe one, only when we get a wide gap in the divided skin can we thoroughly correct the deformity; and surely it is better to see what we are about when we divide the contracted muscles, tendons and ligaments in the sole, than to cut blindly with a tenotome. After objecting to Phelps's operation, the author writes with regard to cuneiform tarsectomy: "Very good results may be attained by the wedge operation, provided only that the soft structures in the concavity at the inner side of the foot, including the ligaments and tendons, and even the skin if necessary, be divided as freely as each case may demand." This is practically a description of Phelps's operation as that surgeon now performs it, for in severe cases he combines a division of the contracted soft parts with a division of the neck of the astragalus or the removal of a wedge of bone.

Coxa vara, of course, finds a place in this work, as it would in any recent book on orthopædic surgery. The author claims that he was one of the earliest surgeons to describe the disease, but we think that he hardly substantiates this claim. The case he published (with a drawing and brief description) was not apparently an ordinary case of coxa vara, as there was a marked subtrochanteric curve.

We are glad to see that in his treatment of wry neck, due to the contraction of the sterno-mastoid, Mr. Keetley says he refuses to follow the advice of those who recommend subcutaneous division of bands of fascia beneath the muscle, but would rather deal with them by the open incision. It is the frequent need for the division of these bands which constitutes one strong argument in favour of the method by open incision.

The author has, we think wisely, not included diseases of

joints in his book, a practice usual with writers on orthopædic surgery in America; and he tells us that he has even abandoned his original intention of including ankylosis of joints among the other subjects treated of, for he considers that this necessitates a consideration of those diseases of the joints which may lead to ankylosis.

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**Medical Gymnastics, including the Schott (Nauheim) Movements.** By AXEL V. GRAFSTROM, M.D. Pp. 139. London: The Scientific Press, Ltd. 1899.

This will be found a useful book, as it gives a good account of the subject, and is not too long. It deals with massage as well as with gymnastic movements, and the directions given for carrying out these procedures are clear and concise. The sections on movements and medical gymnastics are perhaps the best. The field of usefulness for this mode of treatment is legitimately a large one, the author's views as to the diseases in which it is efficacious are sound, and he does not seek to employ it indiscriminately. Many medical practitioners who recognise the value of medical gymnastics and massage will find the descriptions of the movements to be regularly employed for the relief of various conditions extremely useful.

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**Ulceration of the Bladder: Simple, Tuberculous, and Malignant.** By E. HURRY FENWICK. Pp. vi., 85. London: J. & A. Churchill. 1900.

The subject dealt with in these pages is a difficult and obscure one. The author's ten years' incessant practice with the cystoscope, and his records of observations on cases, many of which have been watched for long periods—some for ten or fifteen years, place him in a position to speak with special authority on the types of disease which are considered. After a preliminary consideration of the difficulties and dangers which attend instrumentation, especially cystoscopy, in most cases of bladder ulceration, a form of simple ulcer is described comparable with that which affects the stomach. The characters of the ulcer, its history, and symptoms, are given. The difficulty in effecting a diagnosis between this ulcer and a solitary tuberculous ulcer is adequately recognised. Visual aspects do not enable the distinction to be made; the course of the cases must be watched for long periods, and evidence of the presence or absence of other possible tubercular lesions in the genito-urinary organs carefully searched for. The various forms of tubercular disease and ulceration of the bladder are next considered under the headings of primary tuberculosis of the organ, and tubercular affections secondary to primary tuberculosis of the epididymis, prostate, or kidney. Finally, malignant ulcera-

tion is considered, the author reserving this term for that form of epithelioma of the bladder which is visually comparable to rodent or epitheliomatous ulcer of the skin. The treatment recommended for these various forms of ulceration in their different stages is clearly described.

We regard the book as a very valuable and suggestive record of observations and opinions upon the subject with which it deals. Future researches of the author, and of others engaged in similar studies, may be expected to corroborate or modify the many original opinions which are advanced — all of which opinions deserve serious attention and criticism, being obviously the outcome of long and laborious investigations.

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**The Refraction of the Eye.** By A. EDWARD DAVIS, M.D. Pp. xii., 431. New York: The Macmillan Company. 1900.

This book deals chiefly with the practical value of the ophthalmometer of Javal and Schiötz in examining the refraction of the eye, and does not to any extent enter into the mathematical part of the subject. In it the author endeavours to reproduce as far as is possible in a book the instruction given at the New York Post-Graduate Medical School, where the teaching is entirely clinical. The construction of the instrument and the principles upon which it is based are explained, clear rules for its use are given, and the author's high opinion as to its value in detecting the presence of astigmatism and estimating its degree is expressed. The various forms of ametropia are dealt with at great length, and their treatment is illustrated by very numerous examples, special mention being made of the help to be gained from the use of the ophthalmometer in cases of irregular astigmatism and keratoconus.

A chapter is devoted to strabismus and insufficiency of the ocular muscles, in which the etiology of these affections and the methods of testing them are well but not exhaustively described.

The book, although somewhat redundant in parts, is of a thoroughly practical character, and can be recommended to anyone wishing to obtain a knowledge of the uses and limits of the ophthalmometer.

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**Eye-Strain in Health and Disease.** By AMBROSE L. RANNEY, M.D. Pp. viii., 321. Philadelphia: The F. A. Davis Co. 1897.

It is a well-recognised fact, not only among ophthalmic surgeons, but also among members of the medical profession in general, that the various symptoms grouped under the name of asthenopia, and many headaches, are caused by errors of refraction, or less frequently by some irregularity in the balance of the muscles which control the co-ordinated movements of the

eyes. Dr. Ranney, however, as a neurologist, goes much further than this, and considers that all kinds of diseases may have faulty ocular conditions as their exciting cause. Eye-strain, in his opinion, may set up such widely different and serious nervous affections as sleeplessness, prostration, insanity, epilepsy, chorea, and even chronic gastric and digestive disturbances.

The book contains a description of the usual methods of testing the eyesight, and gives a clear description of how to examine the muscle balance and its abnormalities. The author quotes in it numerous cases in which he claims to have relieved or cured patients suffering from the various diseases enumerated above by treatment of their ametropia (focal errors) by lenses, and more particularly of their heterophoria (faulty muscle balance) by prisms or by operation on the abnormal muscles. Many of these experiences border on the miraculous.

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**Operative and Practical Surgery.** By THOMAS CARWARDINE, M.S. (Lond.), F.R.C.S. Pp. xxi., 661. Bristol: John Wright & Co. 1900.

We welcome this addition to the works on operative and practical surgery chiefly on account of its real practical nature. The numerous illustrations are mostly very graphic, and show very clearly by their diagrammatic outlines the chief points they are required to delineate. Both the practitioner and the student will find the study of this volume decidedly beneficial, and at the same time pleasant reading, though in some portions the style is inclined to be "patchy."

The book is divided up into various sections, and, with the view of making the contents more useful, we should like to see some of the following alterations incorporated in the next edition:—

Psoas abscess ought to find a place in one of the sections. In reducing the dislocation at the metacarpo-phalangeal joint of the thumb we have found at times that an *open* operation without resection of the head of the metacarpal bone is required. We do not like the picture of the surgeon's foot on the pelvis of the patient with dislocated hip, and we do not think that this mode of proceeding is necessary.

In fracture of the neck of the scapula, an important sign, if present, is increased length of the limb. On reading the remarks relating to Colles's fracture, it would appear that the author retains the splints for four or five weeks, and occasionally commences passive movements somewhat earlier. If this line of treatment is adopted the patient should certainly be warned (as mentioned by the author) that many weeks may ensue before the free use of the fingers is secured. These periods of complete and partial rest should be *very* considerably shortened in our opinion.

In speaking of amputations, we quite endorse the author's views with regard to conservative surgery, as with the advances made of late years by keeping the displaced fragments of bone in apposition by screwing, nailing, and wiring, very few compound fractures ought to be amputated.

We are glad to see that so many of the lengthy and rarer operations described in other works for the radical cure of hernia have been omitted, and that the author has confined himself to describing those operations which are in more common use.

In some of the sections devoted to the surgery of the special organs too much space is devoted to uncommon diseases at the expense of those occurring more frequently, and it is doubtful whether the chapters by different authors add very largely to the value of a work of this description.

The book is clearly printed, well finished, and has a most complete index; the author is to be congratulated on the general soundness of the views expressed therein. The subject matter is well up to date, and the fund of practical information is built upon a firm basis of anatomical knowledge. We look upon this book as one of great value, and one that will repay the careful reader.

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**Malaria according to the New Researches.** By Professor Angelo Celli. Pp. xxiv., 275. London: Longmans, Green, & Co. 1900.

This monograph, translated from the second Italian edition by John Joseph Eyre, D.P.H. Cambridge, "informs us fully of what the Italians have done and of what they are doing in the study, and in the prophylaxis, of malaria." Professor Celli's work appeals to English-speaking peoples even more than to his own countrymen, inasmuch as the interests of the latter in this respect are insignificant as compared with those of Great Britain and the United States. It is not quite sufficiently realised in this country that, whatever the surrounding malaria-haunted Campagna may be, "Rome is now not only one of the healthiest cities in the world, but also one of the most desirable health resorts in Europe for certain forms of disease."

In an interesting introduction to the volume, Dr. Patrick Manson points out the fact that "we owe to the Italians not only the name but also much of our knowledge of Malaria," and that "when, two years ago, Ross's brilliant investigations placed the mosquito-malaria theory on an incontrovertible basis, they were the first to confirm his work, to extend it, and to throw themselves energetically into the hygienic measures it so plainly indicated."

The whole basis of the volume rests upon the now abundantly proved dictum that malaria must no longer be considered

a miasmatic disease, but a typically contagious one; that is, a contagion which is transmitted from man to man, not directly, but by the agency of the mosquito. It will be interesting to many victims to know that the most efficient culicide is tobacco-smoke.

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**Year-Book of the Scientific and Learned Societies of Great Britain and Ireland.** Seventeenth Annual Issue. London: Charles Griffin & Company, Limited. 1900.—A well-arranged and indexed summary of work done and papers read in various learned societies during the past year, which is of great value for purposes of reference; the care and completeness with which this has been compiled deserve high commendation.

**Illustrated Lectures on Nursing and Hygiene.** By R. LAWTON ROBERTS, M.D. Third Edition. Pp. xxv., 223. London: H. K. Lewis. 1900.—The contents of this book are mainly arranged on the plan of the syllabus of the advanced nursing course of the St. John Ambulance Association. The preface to this edition states that "a very cursory examination of the reports of the St. John Ambulance Brigade shows that not only is a vast amount of useful public work done at home and, as in the present war, abroad by the Brigade, but that the Nursing Divisions, acting outside the Brigade as local nursing societies in their respective districts, carry out unostentatiously a great benevolent, self-denying, and self-imposed duty of ministering to the sick poor in their own homes." These lectures are likely to be of great utility to all such persons, and an appendix on filters, tuberculous disease, and disinfection gives the most recent information on these topics.

**The Johns Hopkins Hospital Reports.** Vol. VII., No. 4.—*The Origin, Growth and Fate of the Corpus Luteum as Observed in the Ovary of the Pig and Man.* By J. G. CLARK, M.D. Baltimore: The Johns Hopkins Press. 1898.—This pamphlet, which embodies a most important contribution to the literature of the subject of the function and development of the corpus luteum, will prove instructive to the physiologist and histologist. It must be read in its entirety, since the space of a review can give but the baldest outline of the arguments deduced from the author's observations, unless the observations themselves are described in detail. It is sufficient to say that after describing the main arguments used by previous workers as to the origin and development of the corpus luteum—namely (1) The view of Von Baer and others that the lutein cells are developed from the connective tissue cells of the theca interna; (2) The view of Bischoff that the chief factors in the origin of the lutein cells are those of the membrana granulosa; and (3) The view of Patterson and Henle that the chief factor is the coagulation of blood in the Graafian follicle,—the author, working on lines independent of theirs, and without preconceived ideas, considers

he has proved that the view of Von Baer is correct and that the course of origin of the lutein cells is from the connective tissue cells of the theca interna, which become specalised. He considers the function of the corpus luteum to be that of the preservation of the circulation in the ovarian stroma, and so of the function of ovulation, while the cessation of ovulation is induced, not by the disappearance of follicles, but through a densification of the ovarian stroma and destruction of the peripheral circulation, which prevents the development of the follicles. The course of investigation, and the histological methods described, are most complete and interesting. Some capital engravings of photo-micrographs which are added elucidate the text considerably.

**The Student's Medical Dictionary.** By GEORGE M. GOULD, M.D. Eleventh Edition. London: H. K. Lewis. 1900.—The indebtedness of the profession to Dr. Gould grows year by year. The new edition of this book shows a marked improvement over its forerunners, although we are sorry to see that attention has not been given to some slight inaccuracies and omissions to which we referred in our notice of the tenth edition. Not only to the student, for whom it is particularly intended, but also to the practitioner, its value is great, and not easily stated in the words of a necessarily short review. The advancing nomenclature of medicine requires that such a volume should be at the easy command of everyone engaged in any of the multifarious phases of professional work, and we recommend all those so occupied to provide themselves with this book, which not only has a wealth of informing definitions, but is enriched by tables of various kinds admirably prepared by Dr. Gould. This edition has a large number of pictures which the previous ones lacked. We were astonished that we had to look in vain for Achondroplasia.

**Plague. How to Recognise, Prevent, and Treat Plague.** By JAMES CANTLIE, M.B. Pp. 66. London: Cassell & Company, Limited. 1900.—"The appearance of plague in Glasgow, in August, 1900, has brought the subject home to the people in this country, so keenly, that it behoves every medical man to know something of a disease which develops so insidiously and encroaches so stealthily that it may escape recognition, until a serious hold on the community may be obtained before its presence is recognised." This timely pamphlet will enable any medical man to diagnose an unfamiliar disease. "A pneumonia which carries off two or three persons in a house, typhoid or typhus fever to which a query is attachable, convulsions in children of undetermined origin and with a rapidly fatal issue, glandular fever in children, and many other conditions and symptoms, ought to suggest to the doctor's mind, if plague is in the country, that this untoward infection may play a part in the disease roll."

# Editorial Notes.

**A West of England University in Bristol.**—We sincerely hope that ere the new century has grown much older, the South and West of England will be duly represented by a University in Bristol, for if this part of the United Kingdom is to keep abreast of the times and in line with the rest of England, Scotland, Ireland, and Wales, such a University must come within the range of practical politics. Doubtless the older Universities will long maintain their well-established lead as the seats of higher classical and theological scholarship, if not also that foremost position in science towards which they are advancing; but it is now generally recognised that local Universities are equally essential for the promotion of higher and technical education throughout the Kingdom. We are constantly reminded that there is room—and, indeed, ample material—for such a local University in Bristol. Thus in our last issue we had occasion to report some very pertinent remarks on this question which were uttered by Sir William Broadbent in his speech at the University College Medical School dinner. More recently the speeches at the University College Colston Society dinner, and especially that of Sir Michael Foster, quoted below, have brought this important topic into prominent notice.

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The second annual dinner of the **University College Colston Society** was held on January 15th, in the New Lecture Hall. The principal guests of the evening were Sir Michael Foster, M.P., and Sir William Church, Bart., M.D. There was a large attendance, and the funds of the College received a considerable augmentation. Sir Michael Foster said he regarded Universities as the most important things in the world. They were flooded with schools, and of all their schools he ventured to assert that the Universities were the heart or the head. Learning acted on the principle which was very well known in another matter as downward filtration. Unless they had their Universities right, it was no good trying to get their schools, of whatever grade, right. Therefore he repeated that it was necessary for the welfare of the nation that

its Universities should not only flourish, but should abound. He understood that at Bristol they did not possess a University, but a University College. The great difference between a University and a University College was that the former had the power to confer degrees. One idea in the establishment of Universities in the renaissance was that each University was a guild for the advancement of learning, and that had, with various changes, remained their object ever since. They were institutions for the advancement of learning—not only for the spread of knowledge, but for the pushing forward of the known into the unknown. They had been through all time, with little variation, the great instrument of inquiry and research. A teaching body, whether it was called a College or a University, was a University in principle and in reality if the whole of its actions were governed by the dominant principle of research, of inquiry into the unknown. If every member of their teaching staff felt it was his duty, not merely to spread knowledge, but to increase knowledge, then their institution would not be a mere mechanical institution, but what he might call a spiritual organisation as well. Every University ought to try to be something more than a mere machine for converting knowledge into pap, to be deposited into the open mouth of the student He would venture to suggest to the citizens of Bristol that they had in their midst a body which was practically carrying on University teaching — teaching which he knew from personal knowledge was truly inspired with that feeling upon which he had dwelt—and that such an institution, which must have a great influence upon the intellectual progress and industrial advancement of the West of England, ought to be founded not upon the shifting sands of annual subscriptions, but upon the solid rock of permanent endowment. He also added that the metabolism of these Universities was rapid, and that the need for an abundance of pabulum was great.

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The subject of "**A University for Bristol**" was the one chosen for discussion at the meeting of the Bristol Medical Debating Society on December 5th, 1900, when Mr. Richardson Cross gave an address, the object of which was to show that it is essential that the educational opportunities for Bristol and the counties in the West of England should be put on a level with the North of England and the Midlands, and that a University should be established so soon as we can procure the necessary sum of money, and show that our opportunities for teaching are equal to any standard that could be fairly imposed. Birmingham has set us an excellent example. It will be easy to follow when the generous donor has provided the necessary two or three hundred thousand pounds.

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At the annual meeting of the Governors of the **University College, Bristol**, held on November 21st, 1900, the Lord

Bishop of Hereford joined in the feeling of satisfaction with which speakers had looked forward to possible united action between the authorities of the Merchant Venturers' College and the University College, who, in friendly conference, endeavoured to make out a working plan which would bring the two colleges into close and friendly co-operation. His belief was that these men were doing one of the greatest and best educational services done in their time for the city of Bristol. Such cordial co-operation between the University and the pioneer technical school of the Merchant Venturers would go far towards smoothing the way for the initiation of a University scheme, for the work at both these institutions is worthy of University status.

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**Sanatorium for Consumptives.**—The local branch of the National Association for the Prevention of Consumption and other forms of tuberculosis has been making progress of late. Arrangements had been made for the holding of meetings in various parts of the three counties—Gloucester, Somerset, and Wilts; some of these meetings had been held, but others had been postponed in consequence of the death of the Queen. One of the most influential of these meetings was that which took place at Salisbury on December 13th, 1900, under the presidency of the Lord Bishop of Salisbury, when Sir William Broadbent, Bart., M.D., gave an address. Dr. Shingleton Smith and Dr. Lionel Weatherly also spoke. Other meetings are to be arranged shortly, and meanwhile the Executive Committee of the three counties branch has resolved that steps should be at once taken to establish a sanatorium for consumptives of the poorer classes at a spot which will be in a central position for the three counties.

The site selected is at Winsley, on high ground opposite Limpley Stoke, and not far from Bradford-on-Avon. The site, which comprises fifty acres of land admirably adapted for the purpose, can be obtained for £2,000.

The cost of building and equipment is estimated at £15,000, and the annual cost of maintenance will be about £4,000. The Committee is asking for the support of all who are interested in this important matter, and hope that some generous donors will be found who will speedily complete the object in view.

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On January 9th the members of the **Bristol Medico-Chirurgical Society** enjoyed the great advantage of hearing Dr. Patrick Manson, C.M.G., F.R.S., F.R.C.P., give an address on the Life History of the Malarial Parasite. The lucidity of the lecture, and the excellence of the microscopical preparations and lantern slides which were shown, left nothing to be desired. Dr. Manson was modestly silent with regard to his own work in this field of research, but we believe that it was Dr. Manson who

first promulgated the view that the mosquito was the intermediary host of the malarial parasite. Subsequently Major Ross, working upon the lines laid down by Dr. Manson, proved that the views which had been expressed by the latter were in a large degree correct.

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**The New Sydenham Society.**—The Council proposes to publish an Atlas of Clinical Medicine, Surgery and Pathology. From estimates of cost which have been prepared it is believed that with a membership-roll of two thousand, five fasciculi of this Atlas, of eight plates each, could be afforded annually, and in addition, at least one printed volume. At present the Society has only 1,200 members, and unless an addition of 800 can be made the proposal cannot be carried out. Mr. Jonathan Hutchinson, 15 Cavendish Square, W., will be glad to receive the names of new subscribers.

## Notes on Preparations for the Sick.

Several new *preparations of iron*, in various combinations, in the form of glycerophosphates, by H. E. Matthews, Clifton, have been submitted to us:—

**Syrupus Ferri Glycerophosphatis** (MATTHEWS).—Dose, ½ to 1 fluid drachm. A pleasantly-flavoured syrup, containing 2 grains of iron-glycerophosphate in each fluid drachm.

**Syrupus Ferri et Quininæ Glycerophosphatis** (MATTHEWS).—Dose, ½ to 1 fluid drachm. Each fluid drachm contains 2 grs. iron-glycerophosphate and $\frac{1}{12}$ grain quinine.

**Syrupus Glycerophosphatum Co.** (MATTHEWS).—Improved chemical food. Contains the glycerophosphates of iron, calcium, sodium, and potassium, in the same proportions as the phosphates in Parrish's Chemical Food. The preparation is agreeable to the palate, without pronounced styptic taste, and is almost neutral in reaction. The strong acidity of phosphate syrups is often an objection to their administration. These glycerophosphate preparations have the conspicuous advantage of practical neutrality and of presenting the bases in a directly assimilable form. They can be administered with a minimum of risk to the teeth.

**Egg Emulsion of Cod Liver Oil with Glycerophosphates** contains 50 per cent. cod liver oil, emulsified with 10 per cent. of yolk of egg, and containing in each fluid ounce

calcium glycerophosphate and sodium glycerophosphate, of each 8 grains. Dose, 2 to 8 fl. drachms.

The difficulty of prescribing fluid preparations of cinchona, owing to the unpleasant appearance of a sediment, is obviated by the use of **Liquor Cinchonæ Detannatus** (MATTHEWS) prepared from the bark of *Cinchona ledgeriana* (Java calisaya), and standardised to contain 5 per cent. of the mixed alkaloids in combination with hydrobromic acid. A series of analyses shows that the average proportion of quinine to other alkaloids is higher in *cinchona ledgeriana* than in any other of the quinine-yielding barks.

The preparation is freed from cincho-tannic acid and cinchona red, and gives a perfectly clear solution when mixed with water. It is stable in neutral and acid solution; alkalis in excess precipitate the alkaloids.

It is useful in all cases where the action of cinchona alkaloids is desired and the astringent bodies of the bark are objectionable. The combination of the alkaloids with hydrobromic acid tends to prevent cinchonism.

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Mr. C. H. Whiteford (Plymouth) has sent us a **substitute for a flat sponge** made of camel-hair blanketing, covered with butter-cloth. It is easily sterilised by boiling, has great power of absorption, and is soft and elastic. The cost of the material for each "sponge" is about 2½d.

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**"Johannis" Natural Mineral Water; "Johannis" Potash Water** (grs. vijss. per bottle); **"Johannis-Lithia"** (gr. i. per bottle).—THE APOLLINARIS COMPANY, LIMITED, London.—To the natural water are added definite quantities of lithium bicarbonate and potassium bicarbonate respectively. These waters are pleasant to the palate, and are a convenient vehicle for small doses of drugs which should be of great service to gouty patients. They are intended for regular and continuous dietetic use, and hence the dose is necessarily a small one.

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**Bovinine.**—THE BOVININE COMPANY, London.—We have received a volume of 256 pages, containing over 400 clinical reports compiled from private and hospital practice respecting the use of Bovinine in medicine and surgery. Special attention is directed to the combined use of Bovinine with either peroxide of hydrogen or hydrozone for the perfect and complete cleansing of skin surfaces to be operated upon, and various combinations with Bovinine have given excellent results in the surgical treatment and dressing of various lesions. Combinations with thymol, with iodoform, and with Thiersch dressing are

recommended. Bovinine is no new remedy; it has withstood the experience of many years, and it maintains its well-grounded reputation.

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**Tabloids.**—BURROUGHS, WELLCOME, & Co., London.—**Beta-Naphthol**, grs. iij.; **Benzo-Naphthol**, grs. v.—The pungent taste and slight solubility of these drugs render the tabloid form especially appropriate. They are both serviceable in cases of gastric fermentation, particularly when there is dilatation of the stomach; also as intestinal antiseptics in enteric fever and dysentery. Antiseptic intestinal treatment has not yet made much progress, but with the help of convenient doses of these drugs in tabloid form it should be possible to diffuse these antiseptic drugs pretty freely along the whole length of the alimentary canal.

**Calomel**, grs. iij.—Tabloids of this drug are prepared in various doses ranging from gr. $\frac{1}{10}$ up to five grains. The three-grain tabloid is a convenient dose when it is desired to obtain the diuretic action of the drug, the dose being given three times a day for three successive days.

**Quinine Bisulphate and Potassium Citrate (Effervescent).**—This tabloid combines in a convenient and agreeable form the antimalarial and antipyretic properties of quinine with a saline febrifuge. Each tabloid contains one grain of quinine bisulphate and fifteen grains of potassium citrate. If powdered before being moistened, the addition of water will produce a refreshing effervescing draught.

**Three Syrups.**—Each tabloid contains the equivalent of fifteen minims of Easton's syrup with fifteen minims of the compound syrup of hypophosphites and thirty minims of compound syrup of phosphate of iron. The instability of the syrups in warm climates renders the tabloid form useful, especially for tropical use, and as the tabloids are sugar coated they form a convenient, portable, and agreeable dose for all patients who are continuing treatment when following the ordinary round of social, professional, or commercial life.

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**Sanochinol: a Derivative of Quinine.**—A. KOCH, Hamburg; ARTHUR & Co., London.—This non-toxic derivative of quinine seems likely to be of value in the treatment of malaria in tropical countries. It is produced by the action of nascent oxygen on quinine. The product is a yellowish-brown, amorphous, acid salt, readily soluble in water, and tasteless.

# Obituary.

## Dr. JAMES EDWARD PRICHARD.

It is with sincere regret that we have to announce the death of Dr. James Edward Prichard, which took place at his house in Redland Road on February 2nd, 1901. More than a year ago Dr. Prichard suffered from symptoms of a growth in the rectum, but it was not until too late that he sought advice, and then the condition was found not to admit of any radical cure. He went on with his work until last July, when an inguinal colotomy was performed to give him temporary relief. He bore with great fortitude the pain and irremediable discomfort of the last few months of his life, and he died from exhaustion consequent upon the extension of disease in the abdomen.

Dr. Prichard was the second son of the late Augustin Prichard, and grandson of Dr. James Cowles Prichard, F.R.S., the ethnologist, and was born at the Red Lodge in Park Row in 1849. He first went to school at Mr. Smith's, in Richmond Terrace; but when Clifton College began, this school was swallowed up in it, as some others were at that time, and Dr. Prichard was one of the first College boys. From Clifton he went to Oxford in 1869, and obtained the Hody Exhibition at Wadham for Hebrew. Intended originally for the Church, Oxford altered his ideas, and after taking his B.A. degree with honours, he went to University College, London, to study medicine. He held the post of House Physician under the late Dr. Wilson Fox, and became a Member of the Royal College of Surgeons in 1878, proceeding to the M.B. degree at Oxford in 1879. After leaving London, he was for a short time House Surgeon at Tiverton Infirmary, and then went to Paris for further medical study; he then paid a visit to America as medical attendant to a patient. On his return, he was appointed House Surgeon at the Swansea Infirmary. In 1882 he commenced private practice in Cheltenham Road, Bristol; and in 1889, on the resignation of Mr. Gardiner, he was appointed Surgeon to H.M. Prison at Horfield, which post he held up to the time of his death. During the whole of his career he was connected with the Bristol Eye Dispensary in Orchard Street, where the loss of his assistance will be much felt.

He did not give up the whole of his time to medical work. When the Horfield School Board was formed in 1893, Dr. Prichard came forward as one of the candidates, and was returned at the head of the poll. He remained a member of the Board, and was most regular at the meetings, occupying the post of Vice-Chairman till the election of 1899, when he did not seek re-election. He was a good botanist and an enthusiastic cyclist, and after the disease from which he died had manifested itself he was often doubtful whether the riding had acted as an exciting cause.

He was a member of the British Medical Association, Fellow of the Royal Meteorological Society, and a member of the Bristol Medico-Chirurgical Society, and was generally to be seen at the meetings, though he seldom brought forward any papers. He was also a member of the Bristol Microscopical Society.

Dr. Prichard was one of the most unassuming of men. A certain shyness he possessed kept him from pushing himself to the front, and sometimes made it difficult for new acquaintances to get on well with him at first, but when once this was overcome he was a most amiable and genial companion. Somehow he always found his way to the heart of children, and he leaves behind him a large circle of friends, young and old, to mourn their loss. He never married.

Acting up to his strong scientific convictions, he expressed a wish that his body should be cremated. This was done at Woking; and a large number of his patients in the neighbourhood in which he lived, the warders from the prison who could be spared from duty, and many members of the medical profession gathered together on February 7th to show their last respect to him, when the coffin containing his ashes was interred in the family vault at Redland Green.

# Local Medical Notes.

## BRISTOL.

QUEEN VICTORIA JUBILEE CONVALESCENT HOME.—From the first report of this useful institution we obtain the following particulars:—

From the 30th of November, 1899, to the 31st December, 1900, the date at which the accounts close, 987 patients have been admitted. In the first ten months men and women were admitted in almost equal numbers (336 men, 351 women), in the last three months the women have exceeded the men by one-half (123 men, 187 women).

The average stay of each patient in the Home was 20 days. The patients have come from all sorts of employments, and a perusal of the registers of cases would convey a sense of the gravity of the illnesses and injuries from which the patients were recovering, and of the help that the Home has supplied to nearly a thousand sufferers.

Thanks to the home feeling the Matron by her kindliness diffuses, to the care the patients receive from the Medical Officer and the nurses, to the good feeding, and to the rest and the fine air, almost all who entered the Home have left it greatly improved in health, a large proportion quite cured.

Two deaths have occurred during the year.

On a review of the year's experience, the Governors consider that a building better suited to the purpose of the Home, or a position more desirable in every way, could not have been found than the house and grounds so generously given by the President, Sir Edward P. Wills, K.C.B.

The Governors, being most anxious to avoid incurring debt, felt that they could not allow to the Infirmary and Hospital more than 21 beds each, free of payment, out of the 30 originally allotted to each of them.

As it turned out, with the assistance of a cheque for £100, received on Christmas Day, as a present from the treasurer, the year closed with £107 15s. 9d. in hand.

Although the income for the current year will slightly exceed that of last year, which amounted to £2,155 15s. 4d., it seems as if it would not be possible without impairing the comfort of the patients, to provide for the 65 beds originally allotted to the medical institutions—still less to admit cases free of charge to the 15 beds reserved for patients not coming from those institutions.

In these circumstances, the treasurer, Mr. P. H. Vaughan, has most generously proposed to give a further sum to the Home of £10,000, on the condition that others will find an additional sum of £20,000 before the 31st of March, in order that the total number of beds allotted to the medical institutions may all be available for their use, and also that the whole of the remaining 15 beds may be free to suitable patients who have not been admitted from the institutions.

University College.—Dr. Newman Neild has been appointed Demonstrator of Physiology in the College. The following appointments have been gained by former students of the Bristol Medical School:—Mr. E. G. Bunbury, M.R.C.S., L.R.C.P., Medical Officer to the Clifton Dispensary; Mr. H. S. Jenkins, M.R.C.S., L.R.C.P., Junior House-Surgeon at the North London Hospital for Consumption; Mr. Gerald Grace, M.R.C.S., L.R.C.P., Surgeon to the Middleburgh District of the Transvaal. Mr. T. H. Parsons, F.R.C.S., has been awarded the British Medical Association Research Scholarship. At the recent Final M.B. Examination of the University of London Messrs. M. H. Phillips and W. Smith were successful, the former obtaining Honours in Obstetric Medicine. Mr. S. V. Stock obtained the B.S. degree. Mr. C. A. Moore was successful in the Intermediate Examination for M.B. Mr. J. H. Parsons, M.B., B.Sc. Lond., was successful in the Final, and Mr. A. R. Short, B.Sc. Lond., in the Primary F.R.C.S. Examinations.

Health of Bristol.—At the meeting of the Bristol Health Committee, held on January 8th, Dr. D. S. Davies, the Medical Officer of Health, reported that 8,972 births were registered during 1900, giving a birth-rate of 27.8 per 1,000, compared with 29 per 1,000 for 1899. This is the lowest birth-rate which Dr. Davies has recorded in Bristol. The number of deaths were 5,397, equal to a rate of 16.6 per 1,000, as against 18.2 per 1,000 in 1899. The infantile mortality under one year per 1,000 births was 182, which is the lowest recorded for the past ten years. The deaths registered from the principal zymotic diseases were equivalent to a rate of 1.8 per 1,000, the same as recorded in the previous year.

Medical Officers at Fever Hospitals.—At the meeting of the Bristol Town Council, held on January 2nd, the Sanitary Committee reported that although they had advertised for a Resident Medical Officer for the Ham Green Fever Hospital at a salary of £100 per annum, they were unable to obtain any suitable candidate. The Committee suggested that the salary be increased to £150 a year, and the Town Council eventually decided to agree to this proposal, an amendment to increase the salary to £200 per annum being defeated by 38 votes to 30.

Vaccination Grant.—Mr. G. Shepley Page has been awarded a grant by the Local Government Board for successful vaccination.

Bristol Dispensary.—The annual report for 1900 states that 10,060 patients were treated during the year, and that medical assistance was also given in 24 difficult midwifery cases. The committee add that the branch of the Dispensary at Bedminster is much appreciated, and that the number of patients attended is larger than in the preceding year. The financial statement shows that the number of subscriptions has declined during the past year.

# MEETINGS OF SOCIETIES.

## Bristol Medico-Chirurgical Society.

*December 14th, 1900.*

Dr. D. S. DAVIES, President, in the Chair.

The PRESIDENT proposed that a vote of thanks be given to Mr. J. Paul Bush for his very interesting exhibition of lantern slides, illustrating scenes during the Boer war, which he had given to the Society at the last meeting.—Dr. B. M. H. ROGERS seconded the resolution, which was cordially passed.

Mr. A. W. PRICHARD showed a curious case of hypertrophy of the hand; a skiagram, a cast, and photographs of the hand were also shown. The man was a stonemason, who had worked chiefly in railway tunnels. He had been well until five and a half years ago, when a heavy crowbar lacerated the ball of his thumb and his forearm. No bones had been broken. Cramp-like pains affected the parts. The thumb and some of the fingers had gradually enlarged, and the former became deformed. He could hold tools until three weeks previously. The skin was glossy over the thumb and fingers. Touch was impaired, and one spot on the thumb was anæsthetic. Pain shot up the inner side of the arm, and there was involuntary twitching of the index finger. A fusiform swelling had formed on the inner side of the arm above the internal condyle. It did not fluctuate, and was the size of a Tangerine orange. There were no enlarged glands. Neuritis appeared to have extended up the side of the neck to the head. The patient was willing to submit to any reasonable measures for relief, and the speaker would be glad to consider any suggestions.—Dr. MICHELL CLARKE thought it possible that the affection was analogous to "elephantiasis neuromatosa," and referred to the illustrations and account of that affection given in the recent work of Alexis Thomson.—Mr. ROGER WILLIAMS said the enlargement in this case was chiefly of the bones, that of the softer parts seemed secondary. In hypertrophy all parts enlarged symmetrically. There was no bead-like condition of the nerves like that of Von Recklinghausen's disease. After crushing and other injuries, chondromatous growths sometimes developed. The swelling at the elbow seemed secondary to the hand condition, not a direct result of the injury, and he thought it might be a chondro-fibro-sarcoma.

Dr. THEODORE FISHER showed a patient with a patent ductus arteriosus. He remarked that his patient showed a sign which Dr. Goodhart, ten years ago, had pointed out to be suggestive of patent ductus arteriosus; viz., a harsh localised murmur continuous in systole and diastole. A case had lately been recorded in the *Edinburgh Hospital Reports* in which by this sign a case had been successfully diagnosed during life. The murmur was continuous rushing sound, heard almost from just after the first sound to the first sound again. A thrill was palpable in the third left interspace. In two cases the thrill had been in the second space, and it was in that space in the case shown and was an inch outside the sternal edge. This murmur was not unlike a venous hum, undulating with the second sound. He had made a note of these characters of the murmur before reading

the records mentioned. There was another murmur to be heard in his case, due to congenital or acquired causes. No definite symptoms were complained of, but the patient was not able to run about, and had occasional palpitation. She was a woman of twenty-six years of age. She had had rheumatism seven or eight years previously. The heart was enlarged. It was suggested that enlargement of the right heart helped diagnosis, and he thought it was just as likely to occur in these cases as in those of pulmonary stenosis. Absence of cyanosis had been described in other cases.—Dr. MICHELL CLARKE remarked that the history of rheumatism complicated the case. Continuous murmurs were very unusual from congenital defects. They were to be heard in varicose aneurysms. It was not certain that blood passed into the pulmonary artery from the aorta. He had himself only ventured to diagnose pulmonary stenosis and communication between the cavities of the heart in congenital cases. Many cases of congenital heart disease lived to a good age.—Dr. STACK wondered if the continuous murmur might not be a venous hum, and mentioned two cases in which he had heard loud humming murmurs over the heart, but without thrill, and which he had regarded as venous hums and had not been connected with heart lesions.—Dr. FISHER replied that in his case the murmur was harsher and higher pitched than a venous hum, and was associated with a thrill.

Dr. MICHELL CLARKE showed a case of idiopathic muscular atrophy.

Dr. SYMES showed a specimen of blood from a case of lymphatic leukæmia. The blood count showed that the red cells numbered 789,600 per c.m., and the white cells 176,400. Hæmoglobin, about 30 per cent. The total of white cells was made up as follows:—

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|---|---|
| Large hyaline lymphocytes ... ... ... ... | 79 per cent. |
| Small hyaline lymphocytes .. ... ... ... | 10.8 ,, |
| Myelocytes ... .. ... ... ... ... ... ... | 6.4 ,, |
| Finely granular oxyphil leucocytes ... ... ... | 3 ,, |
| Coarsely granular oxyphils (eosinophils) ... | .4 ,, |
| Eosinophil myelocytes ... .. ... ... ... | .2 ,, |

There were a few nucleated red corpuscles. Clinically, the case was characterised by the absence of enlargement of the spleen and lymphatic glands, by extreme anæmia and breathlessness, and by hemorrhages into the skin. It terminated fatally in the third month. —Dr. HARRISON said the patient had shown extreme pallor. The heart sounds had been feeble and the heart dilated. He would have been inclined to diagnose fatty degeneration of the heart. The patient's health had been fair until three months before, but for twelve months had not been robust. She left the hospital at her own request in almost a syncopal condition, and died a day or two later.—Mr. ROGER WILLIAMS remarked that the case showed the value of histological examination of the blood.

Mr. W. ROGER WILLIAMS read a paper on "Medical Science in the Nineteenth Century." He enlarged upon the far-reaching effects upon the advancement of medical science which the promulgation of the cell theory, the germ theory, vaccination, and anæsthesia had produced. Advances had been more due to general evolution than to the transcendent genius of individuals. In 1830, with the manufacture of a serviceable microscope. histology had been born. The philosophical comprehensiveness of Virchow was noticed, and his career outlined. The services of Koch and the inauguration of the germ theory were considered, and the advances which had resulted described.

Dr. J. LACY FIRTH read notes on a case of bilocular hydrocele. The hydrocele was of the intra-pelvic and scrotal variety. The abdominal part of the sac extended nearly to the umbilicus, and occupied the left iliac fossa. There was free fluctuation between the intra- and extra-abdominal portions of the hydrocele. Macewen's view, that these hydroceles resulted from the persistence and distension with fluid of a portion of the funicular process lying along the intra-abdominal portion of the vas deferens, was described. The extra-abdominal sac had been easily and successfully removed by working through the inguinal canal after exposing the external abdominal ring, as in the operation for the radical cure of hernia. The rarity of the affection was alluded to.—Messrs. MUNRO SMITH and PAUL BUSH commented upon the case.

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*January 9th, 1901.*

Dr. D. S. DAVIES, President, in the Chair.

Dr. PATRICK MANSON, C.M.G., F.R.S., gave a demonstration of the life history of the malarial parasite, illustrated by numerous microscopical preparations and lantern slides.

The PRESIDENT proposed a vote of thanks to Dr. Patrick Manson for the deeply interesting, scientific, and graphic address he had given. —Mr. F. RICHARDSON CROSS seconded the resolution, which was enthusiastically carried.

Dr. ELLIOTT alluded to Dr. Manson's statement that quinine was a specific and certain remedy, and asked why, if that were the case, patients who had had malaria abroad, and been apparently cured by efficient treatment with quinine, were yet liable to have a return of the fever, though they had remained in this country without having a chance of being reinfected.—Dr. WALDO asked for information in regard to the production of hæmoglobinuria in some cases by the use of quinine in the treatment of malaria.—Dr. C. K. RUDGE asked for information as to the origin of the malarial parasite, and as to its natural state.—Dr. G. PARKER inquired why malarial fever had disappeared to so great an extent in England. He considered that cases still occasionally occurred in England.—Mr. WINDSOR AUBREY asked for information upon the question of the proper administration of quinine, in order to secure the best results in the treatment of malaria.—Dr. K. WILLS asked whether the different degrees of severity of malarial attacks depended upon differences in the parasites, or upon differences in the susceptibility of the patients.—Dr. PATRICK MANSON, in replying, stated that quinine in some cases of malaria caused the appearance of hæmoglobinuria. It did not do so in India; and during twenty-three years in China, though he had given pounds of quinine, he had not seen a case. But practitioners would not pass a month in West Africa without meeting with cases. It seemed to depend upon unexplained differences in the type of the disease. Quinine cured malaria, and checked the evolution of the parasite, but it had no effect upon the phases of the parasite passed in the mosquito, nor upon latent phases in the human body. We had no knowledge as to the nature of this latent state of malaria. Drainage of the country had an important bearing upon the occurrence of malaria. Anopheles were not uncommon in England. People did not now live in valleys. They did not now suffer more than twenty-four hours from malarial fever without taking quinine, so that the chances of survival of the

parasite were very small. A dose of grs. vij. to grs. xv. of quinine should be given two hours before the threatened attack. Give grs. xx. to grs. xxx. in the twenty-four hours for three or four days or a week. Then give once a week, say on Sundays, for three or four months. In serious cases, the sooner you gave it the better. One must see that the patient swallowed the medicine, and that it became absorbed. It should be given in solution so as to ensure absorption. If there was vomiting give it hypodermically, or rather intra-muscularly, and do that boldly. Deep injections were absorbed most effectually. With regard to the question whether malaria was always due to the mosquito, he believed that was the case. The mosquito came out at night, and concealed itself by day. It did its business quietly, without humming. Some people did not feel irritation from the bites, and were apt to think they had not been bitten when they really had been. He compared the susceptibility of patients to their susceptibility, for instance, to opium. The severity of an attack depended upon individual susceptibility and the dose of the poison.

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*February 13th, 1901.*

Dr. D. S. DAVIES, President, in the Chair.

Dr. SHINGLETON SMITH proposed that Dr. Beddoe, who had been an ordinary member of the Society from its foundation, should be elected an honorary member. Dr. WALDO seconded the proposition, which will be submitted to the Society in due course.

Dr. W. H. C. NEWNHAM showed two specimens of uterine fibroids which he had removed by intra-peritoneal hysterectomy. He laid emphasis on the fact that the cases were exceptional in that they demanded operation for the relief of serious symptoms. The first case was that of a single woman of thirty-nine years of age, who was a cook, and was dependent upon her earnings for a livelihood. She had had excessive hemorrhage for five years. At the operation the ovaries were not removed. The wound, being a large one, was sutured in three layers. Twenty-one days after the operation the patient was up and about. The second case was that of a woman of thirty-five years of age. She had been married sixteen years, and was childless. Six years ago excessive hemorrhage began. It lasted nine or ten days. The tumour had nearly doubled in size in the last twelve months, and the patient had not been free from hemorrhage for more than three days at a time. The same operation was performed as in the last case. Some difficulty was experienced in separating the bladder. The patient was now convalescent.—Dr. AUST LAWRENCE agreed with the opinions which had been expressed as to the advisability of interfering surgically in cases of fibroids of the uterus. Gynæcologists were a little suspicious that surgeons too readily resorted to operations in cases of this disease. Gynæcologists were more likely to look at both sides of the question when cases were sent to them in consultation. Only a small number of the cases required operation. The modern operation of intra-peritoneal hysterectomy was as great an improvement on old methods as the modern operation of ovariotomy was as compared with the old operation in which the clamp was used.—Mr. MUNRO SMITH took exception to the last speaker's remarks upon the attitude of surgeons with regard to these cases, and thought gynæcologists were just as likely to operate as surgeons when cases were sent to them with that object in view.—Mr. ROGER WILLIAMS pointed out that the mortality of hysterectomy had been reduced from 30 per cent.

to 10 per cent. by modern methods of operating. He believed that child-bearing was the great prophylactic of fibroid disease. The disease seemed to be increasing in frequency, and this was probably the result of late marriages.—Dr. W. C. SWAYNE stated that in his experience about half the cases were in patients who had borne children, and pointed out that pregnancy was much less likely to occur if fibroids were present in the uterus. Such tumours might be present, though one was unable to detect them. He praised the three-plane method of suturing the parietes, regarding it as less likely to lead to adhesions of the intestine to the scar.—Mr. PAUL BUSH objected to Dr. Lawrence's view that gynæcologists were better qualified than surgeons to treat cases of this disease judiciously.—Dr. K. WILLS described the vaginal operation he had seen adopted for these cases by Prof. Wertheimer, of Vienna. In one case, the tumour removed by that method had been half as large again as Dr. Newnham's specimen. No serious bruising of the parts seemed to result from the procedure.—Dr. NEWNHAM, in replying, said he thought fibroids were as frequent in nulliparous as in multiparous women.

Dr. F. H. EDGEWORTH read a paper on a case of purpura hemorrhagica. The patient was a girl, aged 4. She died ten days after admission to the Bristol Royal Infirmary, her illness having begun five weeks before admission. The first trouble had been the formation of swellings in the parotid regions. On admission there were marked pallor, subcutaneous extravasations of blood—many of small extent, some large—enlargement of the spleen, and slight enlargement of the lymphatic glands in the neck. There was a trace of albumin in the urine. The gums were not spongy. The temperature ranged from 99° to 101°. The blood showed considerable leucocytosis as well as anæmic changes. A week later there was some hemorrhage from the rectum, nose, and gums. At the *post-mortem* examination there were found subserous hemorrhages in the pleuræ, lungs, and dura mater, and large and numerous hemorrhages in the kidneys. Streptococci and staphylococci were found in the blood of the spleen and heart. It was interesting to note that the above symptoms began with enlargement of the parotid glands. Bacteriologically, the case had been one of septicæmia. The existence of leucocytosis accorded with this. The anæmia was chiefly due to the hemorrhage, as shown by the fact that the hæmoglobin-richness, and the number of blood corpuscles were each reduced 30 per cent. The endothelial lining of the capillaries had been damaged by the circulation of septic poison in the blood stream. The organisms mentioned, one or the other, or both, were usually found in the blood in these cases. The non-suppurative parotitis had preceded the other symptoms by some weeks. It was probably septic in origin. Septic parotitis sometimes followed abdominal operations. No wound had been found by which the poison might have been introduced into the system. In diagnosis, malignant endocarditis, and certain specific fevers, especially typhoid, and in this case also, in the early stage, mumps, had to be differentiated from purpura hemorrhagica. The majority of cases in which purpura was associated with hemorrhage from mucous membranes were septicæmic in origin. The prognosis was worse where there were other manifestations of the disease as well as hemorrhages—*e.g.*, enlargement of the spleen. If malignant endocarditis was present the issue would be fatal.—Dr. THEODORE FISHER suggested that the renal changes present might possibly have assisted in causing the hemorrhages, and alluded to the different forms of renal disease and their bearing in the production of hemorrhages.—Dr. ELLIOTT remarked that purpura

hemorrhagica must be regarded as a specific fever of some kind. He considered that the prognosis was favourable on the whole, if endocarditis was absent. Nasal bleeding might lead to hæmatemesis. The best treatment was good feeding and tonics.—Dr. W. C. SWAYNE alluded to a case he had once seen at the Evelina Hospital, in which there had been hemorrhage into the subcutaneous tissues and from mucous membranes. The boy died in forty-eight hours. The case had been regarded as one of acute scurvy, but he thought that it was more likely to have been one of septic purpura. He also mentioned a case of puerperal fever he had seen in which the spleen was enlarged, and in which Prof. Kent had found numerous streptococci in the uterine discharge.—Dr. EDGEWORTH, in replying, said he had not gone into the question of treatment, as it was that of septicæmia. The hemorrhage did not often cause death directly. If very persistent the use of turpentine internally was recommended, as advocated by Dr. Gee.

Dr. H. WALDO read notes on a case of hæmatoporphyrinuria. The patient was a man of thirty-three. He had taken drugs for insomnia, and latterly had been very partial to sulphonal. He had consulted Dr. Waldo for giddiness, nervousness, and nausea. Later, severer vomiting and pain from gastritis came on, lasting a week. For a day or two he had been fed on nutrient enemata. Nervous symptoms with fleeting delirium, not unlike *delirium tremens*, followed. Then he became violent. Then the urine became like port wine in colour, with absence of albumin and of red blood-cells. Later, severe epileptic convulsions came on and lasted a week. The patient became weaker and weaker. The pulse rate gradually increased from 80 to 160, and the heart sounds became hardly audible. Nasal feeding had to be resorted to, as food given by the mouth passed into the larynx. The fundus of the eye was normal. The patient died comatose. Probably sulphonal was the cause of the symptoms. Hæmatoporphyrinuria was sometimes met with in health, and in rheumatism, pneumonia, and peritonitis. A case had been published in which convulsions and death resulted from a patient taking grs. xxx of sulphonal in two doses. Dr. Young and Mr. Stoddart relied chiefly on the spectrum produced by the substance for its detection.—Prof. KENT remarked that hæmatoporphyrin was free from iron. The appearance of the spectrum differed in acid and alkaline solutions. Though urine had an acid reaction, the spectrum yielded, when hæmatoporphyrin was present, was that spectrum characteristic of the substance when in an alkaline medium. It had been so in Dr. Waldo's specimen.

The President, Dr. D. S. DAVIES, made some remarks upon plague, and invited Prof. Stanley Kent to show microscopic specimens and cultures of the bacillus pestis. The question of plague was getting more and more important. Since the Hong-Kong epidemic in 1896 the disease had assumed a pandemic character. Since the seventeenth century the area affected had gradually retreated eastwards. Plague had disappeared from the east of Europe in 1840. This retreat eastwards was probably due to the fact that the distribution of this disease depended upon the distribution of a sub-family of rats. Probably, when the bacillus became less virulent, it could only survive in animals which were specially prone to receive it. In Glasgow the rats had escaped infection. Plague in the human subject should be easily controlled, like typhus and small-pox. If rats became infected control was more difficult, and danger arose from the public being indifferent to the danger of the importation of plague by animals. Cholera, on the other hand, was a distinctly human disease, and for

protection against it no special regulations affecting animals were required. Experience showed that in the dissemination of plague rats were dangerous. To prevent rats passing to the land, ships should be moored two feet away from the quay, rat-guards should be fixed on the cables passing to the quay, and special watch should be kept to prevent the migration. It would be useful if there were powers to disinfect ships after the discharge of their cargo. Mention was then made of a steamboat which had brought a cargo of maize to Bristol from the River Plate, an infected port. Suspicion was aroused by finding twelve dead rats in one of the holds of the vessel. One of these rats had been examined by Prof. Kent, who reported that the appearances did not exclude plague. Two of the rats were then sent to Prof. Klein, who concluded that the plague virus was present in them. Prof. Klein had also found the bacillus in a Cardiff rat.—Prof. KENT pointed out that plague might be diagnosed by ordinary symptoms or by bacteriological investigations. The best material to obtain for the latter purpose was fluid from a bubo. If it was difficult to get any fluid, a little salt solution might be first injected. If there were no bubo, the blood might be examined. A blood film did not usually show the organism unless the cases were of very virulent type. Sputum was not so good for these tests. The organisms existed in enormous numbers in the dejecta. The *bacillus pestis* was a very small organism, consisting of short rods with rounded ends. It was so short that it might appear like a coccus. A staining feature—though not quite a constant one—was that the middle of the rods stained less than the ends (bipolar staining). The appearances of cultures in various media were then described. Almost all animals were susceptible. When affected they became dull, and they refused food and their hair stood on end. They usually died in convulsions in three to five days. Prof. Kent then showed cultures and microscopical preparations, illustrating the subject. Some of these preparations had been obtained from the dead rat found in the ship in Bristol, as described above.

J. LACY FIRTH.

## The Library of the Bristol Medico-Chirurgical Society.

*The following donations have been received since the publication of the List in December:*

| | *February 28th, 1901.* |
|---|---|
| Sir William Broadbent, Bart. ... ... ... ... | 1 volume. |
| R. Caton, M.D. (1) ... ... ... ... ... ... ... | 1 „ |
| Theodore Fisher, M.D. (2) ... ... ... ... ... | 1 „ |
| L. M. Griffiths (3) ... ... ... ... ... ... ... | 3 volumes. |
| The Laryngological Society of London (4) ... ... | 1 volume. |
| The Otological Society of the United Kingdom (5) | 1 „ |
| The Pathological Society of London (6) ... ... | 1 „ |
| The Royal College of Physicians of London (7) | 2 volumes. |

The Surgeon-General, United States Army (8) ... 1 volume.
James Taylor ... ... ... ... ... ... ... ... 1 ,,
John Wright & Co. (9) ... ... ... ... ... ... 1 ,,

Unframed pictures have been presented by Dr. Christian Fenger, and Dr. T. Fisher. Unbound periodicals have been received from Dr. J. Michell Clarke and from the Medical Library of McGill University.

## THIRTY-NINTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.
The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

**Abrams, A.**.... ... *Transactions of the Antiseptic Club* .. ... ... ... 1900
**Babes, A.-V. Cornil et V.** *Les Bactéries* ... ... .. ... ... ... ... 1885
**Beck, C.** ... ... *Fractures* ... ... ... ... ... ... ... ... ... ... 1900
*Bibliotheca Meddiana* ... ... ... ... ... ... ... ... ... ... ... [1754]
**Bichat, X.** ... ... *Anatomie générale.* Ire part., Ier fasc. [Repr. of 1801 ed.] ... ... ... ... ... ... ... ... ... ... 1900
**Böhm and M. von Davidoff, A. A.** *A Text-Book of Histology* (Tr. from 2nd German edition by H. H. Cushing. Ed. by G. C. Huber) ... ... ... ... ... ... ... 1900
**Cantlie, J.** ... ... *Plague* ... ... ... ... ... ... ... ... ... ... 1900
**Carpenter, G.** ... *The Syphilis of Children in Every-day Practice* ... ... 1901
*Catalogue (Index) of the Library of the Surgeon-General's Office, United States Army.* 2nd Ser., Vol. V.... ... ... (8) 1900
**Caton, R.** ... ... *The Prevention of Valvular Disease of the Heart*... (1) 1900
**Celli, A.** ... ... *Malaria* (Tr. by J. J. Eyre) ... ... ... ... ... ... 1900
**Cheadle, W. B.**... *Some Cirrhoses of the Liver* ... ... ... ... ... ... 1900
**Cornil et V. Babes, A.-V.** *Les Bactéries* ... ... ... ... ... ... ... 1885
*Cornwall as a Winter Resort* ... .. ... ... ... ... ... ... ... (3) 1900
**Cotgreave, A.** ... *A Contents-Subject Index* ... .. ... ... ... ... 1900
**Curtis, H. J.** ... *Practical Bacteriology* ... ... ... ... ... ... ... 1900
**Davidoff, A. A. Böhm and M. von.** *A Text-Book of Histology* (Tr. from 2nd German edition by H. H. Cushing. Ed. by G. C. Huber) ... ... ... ... ... ... ... 1900
"*Diarrhœa Deaths,*" *Certification and Classification of* ... ... ... ... ... 1900
**Easterbrook, C. C.** *Organo-Therapeutics in Mental Diseases* ... ... ... 1900
**Ellis, H.** ... ... *Studies in the Psychology of Sex* ... ... ... ... ... 1901
**Firth, J. L. Notter and R. H.** *The Theory and Practice of Hygiene.* 2nd Ed. by J. L. Notter and W. H. Horrocks ... 1900
**Gardner, H. B.** ... *The Asphyxial Factor in Anæsthesia* ... ... ... ... 1901
**Grandin and G. W. Jarman, E. H.** *Practical Obstetrics* ... ... 3rd Ed. 1900
**Hall and H. Tilley, F. de H.** *Diseases of the Nose and Throat.* 2nd Ed. 1901
**Hawkins, C.** ... *The Physical Examination and Development of School Boys* ... ... ... ... ... ... ... ... ... ... 1900
**Heisler, J. C.** ... *A Text-Book of Embryology* ... ... ... ... .. ... 1899
**Herman, G. E.** ... *Difficult Labour* ... ... ... ... ... [3rd] Ed. 1901
**Hovell, T. M.** ... *Diseases of the Ear and Naso-Pharynx* ... 2nd Ed. 1901
**Hunter, W.** ... *Oral Sepsis* .. ... ... ... ... ... ... ... ... 1901

**Jackson, E.** ... *Diseases of the Eye* ... ... ... ... ... ... ... ... 1900
**Jarman, E. H. Grandin and G. W.** *Practical Obstetrics* ... ... 3rd Ed. 1900
**Kelynack and W. Kirkby, T. N.** *Arsenical Poisoning in Beer Drinkers* ... 1901
**Kenwood, L. Parkes and H.** *Hygiene and Public Health* ... ... ... ... 1901
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**Klemperer, E. Levy and F.** *Clinical Bacteriology* (Tr. by A. A. Eshner).. 1900
**Lake, R.** ... ... *Laryngeal Phthisis* ... ... ... ... ... ... ... ... 1901
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**Murray, G. R.** ... *Diseases of the Thyroid Gland.* Part I. ... ... ... 1900
**Notter and R. H. Firth, J. L.** *The Theory and Practice of Hygiene.* 2nd Ed. by J. L. Notter and W. H. Horrocks ... 1900
**Ogden, J. B.** ... *Clinical Examinations of the Urine* ... ... ... ... 1900
**Oliver, G.** ... ... *Blood and Blood-Pressure* ... ... ... ... ... ... 1901
**Owen, [E.]** ... ... *Observations on the Earths, Rocks, Stones, and Minerals for some miles about Bristol* ... ... ... ... ... 1754
**Parkes and H. Kenwood, L.** *Hygiene and Public Health* ... ... ... ... 1901
**Payne, J. F.** ... *Thomas Sydenham* ... ... ... ... ... ... ... ... 1900
*Royal College of Physicians of London, List of the Portraits and other Works of Art in the* ... ... .. ... ... ... ... (7) 1900
" " *Catalogue of Accessions to the Library of the, during* 1900 ... ... ... ... ... ... ... (7) 1900
**Senn, N.** ... .. *The Pathology and Surgical Treatment of Tumors.* 2nd Ed. 1900
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**Shoemaker, J. V.**. *Materia Medica and Therapeutics* .... ... ... 5th Ed. 1900
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**Tunstall, F. J. Warwick and A. C.** *First Aid* ... ... ... ... ... ... 1901
**Venner, T.** ... ... *Via Recta ad Vitam Longam* ... ... ... ... ... (2) 1638
**Warwick and A. C. Tunstall, F. J.** *First Aid* ... ... ... ... ... ... 1901
**Williams, W. R.**. *Uterine Tumours* ... ... ... ... ... ... ... ... 1901
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Birmingham Medical Review, The ... ... Vols. XLVII., XLVIII. 1900
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Boston Medical and Surgical Journal, The... ... ... ...Vol. CXLIII. 1900
Bristol Directory ... ... ... ... ... ... ... ... ... ... ... (9) 1901
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British Medical Journal, The... ... ... ... ... ... ... Vol. II. for 1900
Centralblatt für Chirurgie ... ... ... ... ... ... ... ... ... ... 1900
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Écho médical du Nord, L' ... ... ... ... ... ... ... ... ... ... 1900
Edinburgh Medical Journal, The ... ... ... ... ... N.S., Vol. VIII. 1900
English Catalogue, The ... ... ... ... ... ... ... ... ... ... 1890-97
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Gazette des Hôpitaux de Toulouse ... ... ... ... ... ... ... ... 1900
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Glasgow Medical Journal, The ... ... ... ... ... ... Vol. LIV. 1900
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Johns Hopkins Hospital Reports, The Vols. VII. No. 3, 1898, VIII. Nos. 3-9 1900
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Journal of the Boston Society of Medical Sciences ... Vol. IV. 1899-1900
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Medical Chronicle, The ... ... ... ... ... ... 3rd Ser., Vol. III. 1900
Medical Directory, The ... ... ... ... ... ... ... ... ... ... 1901
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Münchener medicinische Wochenschrift ... ... ... ... ... ... ... 1900
New Hampshire Medical Society, Transactions of the ... ... ... ... 1900
New York Medical Journal, The ... ... ... ... ... ... Vol. LXXII. 1900
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Odontological Society of Great Britain, Transactions of the Vol. XXXII. 1900
Otological Society of the United Kingdom, Transactions of the (5) Vol. I. 1900
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Scottish Medical and Surgical Journal, The ... ... ... Vol. VII. 1900
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# SCRAPS

PICKED UP BY L. M. G.

**Clinical Records** (34).—Chaplain: "My poor fellow, this is the day when you are to perish on the scaffold. Have you any requests to make?" Culprit: "Yes, I wish you 'd send for a doctor. This cold of mine seems to be getting worse, and it may run into something serious."

**Medical Philology** (XXXVII).—The *Promptorium* has "Drotyñ yn' speche. *Traulo.*" Mr. Way's note is: "This term, implying difficulty of speech, or stuttering, has not been met with elsewhere. The Ortus renders '*traulus*, a ratelere,' a word equally unnoticed by Glossarists, which occurs also in Cath. Ang. 'To rátylle, *traulare;* a ratyller, *traulus.*'" In his note on these words in the *Catholicon*, Mr. Herrtage says: "Cooper renders *traulus* by 'one that can scant utter his wordes.' 'Ratler in the throte who aptly doth not pronounce. *Traulus.*' Huloet."

**Fashions Change.**—It is interesting to watch the progress and decay of prejudice against particular professions. Solicitors are gradually outgrowing the hostility which prompted the famous free translation of *Nemo repente fuit turpissimus:* "It takes five years to become an attorney." And so, too, with doctors, concerning which calling one may recall a curious anecdote. While Rome was still a pontifical city, an Italian *impresario* wrote to Gounod, asking him, as the ecclesiastical censorship prohibited the appearance of the Devil on the stage, if he could not transform the character of Mephistopheles, making him "*per esempio un medico*"! In contemporary works of fiction I fancy that the villain is most commonly a company promoter, though, indeed, in Mr. Fergus Hume's new novel he is an Episcopal chaplain.—C. L. G., in *The Londoner*.

**Medical Missions.**—Dr. Duncan Main, of Hang-chow, Mid China, where is perhaps the largest Medical Mission in the world, certainly the largest in China, thus describes its work:—

"Every year there are something like 1,000 in-patients and 30,000 or 40,000 out-patients, who are received in two hospitals, one for men and one for women; there are also an opium-refuge, three small hospitals for lepers, a home for the untainted children of lepers, a convalescent home, and a training college for young men. I and my staff are supposed to do itinerating work, to be local treasurer and secretary for the Church Missionary Society, to look after all the native missionaries, and to give an eye to all foreigners who come to Hang-chow. In addition to all this, we hold something like 3,000 services a year, for the medical missionary is not a doctor only, but a missionary first and a doctor afterwards."

Hang-chow is a city of 750,000 people. It is surrounded by a wall more than fourteen miles round, and has a single street five miles long.—*Awake.*

**Literary Refreshment for Doctors.**—In an address, entitled "After Twenty-five Years," delivered at the opening of the session of the Medical Faculty, McGill University, Montreal, Dr. William Osler said: "While medicine is to be your vocation, or calling, see to it that you have also an avocation—some intellectual pastime which may serve to keep you in touch with the world of art, of science, or of letters. Begin at once the cultivation of some interest other than the purely professional The difficulty is in a selection and the choice will be different according to your tastes and training. No matter what it is—but have an outside hobby. For the hard-working medical student it is perhaps easiest to keep up an interest in literature. Let each subject in your year's work have a corresponding outside author. When tired of anatomy, refresh your mind with Oliver Wendell Holmes; after a worrying subject in physiology, turn to the great idealists, to Shelley or Keats for consolation; when chemistry distresses your soul, seek peace in the great pacifier, Shakspere; and when the complications of pharmacology are unbearable, ten

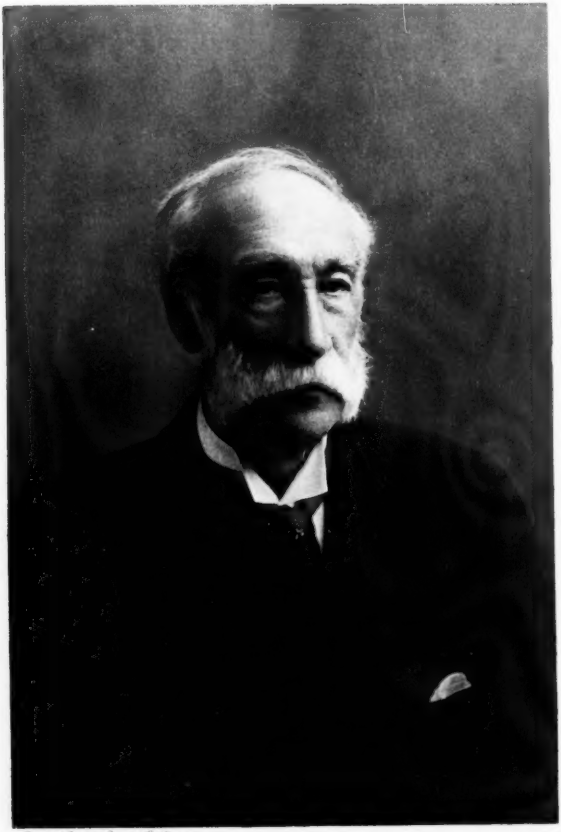
minutes with Montaigne will lighten the burden. To the writings of one old physician I can urge your closest attention. There have been, and, happily, there are still in our ranks notable illustrations of the intimate relations between medicine and literature, but in the group of literary physicians Sir Thomas Browne stands pre-eminent. The *Religio Medici*, one of the great English classics, should be in the hands—in the hearts too—of every medical student. As I am on the confessional to-day, I may tell you that no book has had so enduring an influence on my life. . . . . It was one of the strong influences which turned my thoughts towards medicine as a profession, and my most treasured copy—the second I ever bought—has been a constant companion for thirty-one years,—*comes viæ vitæque.* Trite, but true, is the comment of Seneca—'If you are fond of books you will escape the *ennui* of life, you will neither sigh for evening disgusted with the occupations of the day—nor will you live dissatisfied with yourself or unprofitable to others.'"—*Montreal Medical Journal.*

**Richard Mead**.—Of all the numerous scholars, men of letters, collectors, antiquarians, and intellectual benefactors, whom we owe to a profession which has fostered the learned Linacre (described by his friend Erasmus as "*vir non exacti tantum sed severi judicii*"); the gentle Caius, that zealot of universities; the genial, the ingenious Arbuthnot; the bibliophilic Askew; Freind, the medical annalist; the Ovidian Garth; Radcliffe, the founder of mighty libraries; and Watson, the last of the race of Grand Seigneurs de la Médecine—Mead stands pre-eminent as patron, collector, the friend of arts and letters, of artists and *littérateurs*, the stimulant and stimulator of men's bodies and minds alike. Dr. Richard Mead was born at Stepney in August, 1673, and graduated "Philosophiæ et Medicinæ Doctor" at Padua in August, 1695. In 1696 he settled down in practice at Stepney. In 1703, when only thirty years of age, he became F.R.S., of which Society he was elected vice-president in 1707. His fellowship was due to the analysis of Bonomo's letter to Redi on the genesis of the itch, and his *Account of Poisons*. In 1707 Oxford confirmed his Paduan diploma of M.D., and the friendship of Radcliffe leading upon the latter's death to Mead's succession to his practice, established his title to be considered the head of his profession. Amongst men of letters Mead's reputation stood high. Warburton describes him as "a man to whom all people that pretend to letters ought to pay their tribute on account of his great eminence in them and patronage of them"; and Theobald acknowledges the assistance received from him in the preparation of his Shakspere.

In the National Portrait Gallery is a large oil-painting by Allan Ramsay, a reproduction of which in mezzo-tint by R. Houston forms the frontispiece to the 1762 quarto edition of Mead's works; it was also engraved by B. Baron, 1749, with Mead's arms at foot.

Mead's library consisted of 100,000 volumes, and realised by auction £5,499 4s. 5d.; his pictures sold for £3,417 11s., prints and drawings for £1,920, coins and medals £1,975 17s. 6d., and antiquities and other curiosities £3,245; making a grand total of £16,057 12s. 11d. The sale of the "Bibliotheca Meadiana" was conducted by Samuel Baker, York Street, Covent Garden, in two portions. The first was offered on Monday, the 18th November, 1754, and the sale lasted till December 19th. The second began on April 7th, 1755, and also lasted twenty-eight days. The pictures, prints, and drawings were sold by Mr. Langford, in the Great Piazza, Covent Garden, in January and March, 1755, occupying together seventeen evenings. The title-page of the Catalogue, as befits the classical owner, is in Latin: The books are *Venales sub Hasta* (recalling Cicero's statement that a spear was erected in the Forum when goods were for sale by auction), with a motto from Euripides, "Γεῦμα τὴν ὠνὴν καλεῖ."—Mr. Albert Forbes Sieveking, in *St. Thomas's Hospital Gazette.*

The Bristol Medical Library has a copy of the quarto edition of Mead's works and a fine impression of Baron's engraving, and also a copy of the caricature by Hogarth which was reproduced in volume five of the *Asclepiad*. Quite recently the library has obtained a copy of the Catalogue of the sale with the prices marked.



Yours Sincerely
Wm. F. Fuller